

=> fil reg
FILE 'REGISTRY' ENTERED AT 14:38:38 ON 27 NOV 2009
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STRUCTURE FILE UPDATES: 26 NOV 2009 HIGHEST RN 1194097-15-8
DICTIONARY FILE UPDATES: 26 NOV 2009 HIGHEST RN 1194097-15-8

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<http://www.cas.org/support/stngen/stndoc/properties.html>

=> => d que stat l7
L3 STR



NODE ATTRIBUTES:
NSPEC IS RC AT 1
NSPEC IS RC AT 2
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE
L4 STR



G1 7

VAR G1=1/4
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE

L5 SCR 2043

L7 386865 SEA FILE=REGISTRY SSS FUL L3 AND L4 AND L5

100.0% PROCESSED 674332 ITERATIONS

386865 ANSWERS

SEARCH TIME: 00.00.05

=> d que stat l16

L3 STR



NODE ATTRIBUTES:

NSPEC IS RC AT 1

NSPEC IS RC AT 2

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L4 STR



G1.7

VAR G1=1/4

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE

L5 SCR 2043

L7 386865 SEA FILE=REGISTRY SSS FUL L3 AND L4 AND L5

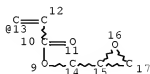
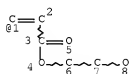
L11 STR



NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE
 L13 STR



G1 18

VAR G1=1/13
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
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STEREO ATTRIBUTES: NONE
 L16 163736 SEA FILE=REGISTRY SUB=L7 SSS FUL L13 AND L11

100.0% PROCESSED 172230 ITERATIONS 163736 ANSWERS
 SEARCH TIME: 00.00.02

=> d his

(FILE 'HOME' ENTERED AT 14:03:38 ON 27 NOV 2009)

FILE 'HCAPLUS' ENTERED AT 14:04:04 ON 27 NOV 2009
 E US20070040145/PN

L1 1 S E3
 SEL RN

FILE 'REGISTRY' ENTERED AT 14:04:26 ON 27 NOV 2009
 L2 14 S E1-14

FILE 'LREGISTRY' ENTERED AT 14:04:34 ON 27 NOV 2009

L3 STR
 L4 STR
 L5 SCR 2043

FILE 'REGISTRY' ENTERED AT 14:07:12 ON 27 NOV 2009
 L6 50 S L3 AND L4 AND L5
 L7 386865 S L3 AND L4 AND L5 FUL
 L8 10 S L2 AND L7
 SAV TEMP L7 BER998/A

FILE 'HCAPLUS' ENTERED AT 14:09:06 ON 27 NOV 2009
 L9 15 S L8

FILE 'LREGISTRY' ENTERED AT 14:10:08 ON 27 NOV 2009
L10 STR L3
L11 STR

FILE 'REGISTRY' ENTERED AT 14:13:04 ON 27 NOV 2009
L12 50 S L10 AND L11 SSS SAM SUB=L7
L13 STR L10
L14 50 S L13 AND L11 SSS SAM SUB=L7

FILE 'HCAPLUS' ENTERED AT 14:16:23 ON 27 NOV 2009
L15 10 S L9 AND (PY<=2004 OR PRY<=2004 OR AY<=2004)

FILE 'REGISTRY' ENTERED AT 14:19:06 ON 27 NOV 2009
L16 163736 S L13 AND L11 SSS FUL SUB=L7

FILE 'HCAPLUS' ENTERED AT 14:20:32 ON 27 NOV 2009
L17 QUE ELECTROLY?
L18 6 S L15 AND L17
L19 1539 S L16(L)L17
L20 QUE COMPOSITION
L21 2 S L18 AND L20
L22 400 S L19 AND L20
L23 QUE L17(3N)L20
L24 257 S L22 AND L23
L25 QUE POLYMER(2N) (ELECTROLY? OR CONDUCT?)/IT
L26 164 S L24 AND L25
L27 QUE SOLID(2N)ELECTROLY?
L28 62 S L26 AND L27
L29 56 S L28 AND (PY<=2004 OR PRY<=2004 OR AY<=2004)
L30 55 S L29 NOT L18
SEL HIT RN L30
L31 57286 S L16/P
L32 22 S L30 AND L31
L33 6 S L31 AND L18

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 14:39:23 ON 27 NOV 2009
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FILE COVERS 1907 - 27 Nov 2009 VOL 151 ISS 23
FILE LAST UPDATED: 26 Nov 2009 (20091126/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2009

HCAplus now includes complete International Patent Classification (IPC)

reclassification data for the third quarter of 2009.

CAS Information Use Policies apply and are available at:

<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

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=> d ibib abs hitstr hitind l18 1-6

L18 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2006:317430 HCAPLUS Full-text
 DOCUMENT NUMBER: 144:353731
 TITLE: Polymer electrolyte batteries with electrolytes containing block copolymers
 INVENTOR(S): Shimada, Mikiya; Amaike, Masato; Shintani, Takeshi; Kawamura, Kiyoshi
 PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 40 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006092792	A	20060406	JP 2004-273632	20040921
			<--	
PRIORITY APPLN. INFO.:			JP 2004-273632	20040921
			<--	

AB The title batteries are equipped with polymer electrolytes containing electrolyte salts and provide voltage resistance ≥ 4.2 V and conductivity at $23^\circ \pm 1 + 10^{-5}$ S/cm. The polymer electrolytes consist of repeating units CR1R2CR3[CO2(CHR4bCHR4aO)mR5] (I; R1-R3 = H, C1-10 hydrocarbyl; R1 and R3 may be bonded to form a ring; R4a and R4b = H, Me; R5 = H, hydrocarbyl, acyl, silyl; m = 2-100), CR6R7CR8R9 (II; R6-R8 = H, C1-10 hydrocarbyl; R9 = (substituted) aryl), and CR10R11CR12R13 (III; R10-R12 = H, C1-10 hydrocarbyl; R13 = (substituted) aryl, heteroaryl) at mol ratio I/(II + III) 1/30 to 30/1. The polymer electrolytes are suitable for 5 V-class secondary Li batteries.

IT 697284-07-4DP, lithium complexes
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (comb block-containing; polymer electrolyte batteries with electrolytes containing block copolymers)

RN 697284-07-4 HCAPLUS

CN Poly(oxy-1,2-ethanediy1), α -(2-methyl-1-oxo-2-propen-1-yl)- ω -methoxy-, polymer with ethenylbenzene, triblock (CA INDEX

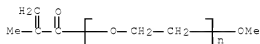
NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

CCI PMS



CM 2

CRN 100-42-5

CMF C8 H8



- CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
- ST polymer electrolyte lithium battery block copolymer
polyoxyethylene
- IT Secondary batteries
(lithium; polymer electrolyte batteries with
electrolytes containing block copolymers)
- IT Battery electrolytes
Polymer electrolytes
(polymer electrolyte batteries with
electrolytes containing block copolymers)
- IT 697284-07-4DF, lithium complexes
RL: DEV (Device component use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(comb block-containing; polymer electrolyte batteries with
electrolytes containing block copolymers)
- IT 7439-93-2DP, Lithium, complexes with poly(ethylene oxide)-containing
polymers
RL: DEV (Device component use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(polymer electrolyte batteries with
electrolytes containing block copolymers)

L18 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:1102873 HCAPLUS Full-text

DOCUMENT NUMBER: 143:389768

TITLE: Solid polymer electrolyte batteries
with good cycle efficiencyINVENTOR(S): Kawamura, Kiyoshi; Shimada, Mikiya; Shintani,
TakeshiPATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokyo Koho, 47 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

November 27, 2009

10/571,998

7

LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005285332	A	20051013	JP 2004-68707	20040311
<--				
PRIORITY APPLN. INFO.:			JP 2004-56493	A 20040301
<--				

AB The batteries have (A) solid polymer electrolytes containing (a) crosslinked products of copolymers having repeating units of [CR1R2CR3CO2(CR4aHCR4bHO)mR5] (R1-R3 = H, C1-10 hydrocarbon group; R4a, R4b = H, Me; R5 = H, hydrocarbon group, acyl, silyl; m = 1-100) and (CR6R7CR8R9) (R6, R8 = H, C1-10 hydrocarbon group; R7 = H, C1-10 hydrocarbon group, OH, etc.; R9 = OH, carboxyl, epoxy, etc.), and crosslinking agents, and (b) electrolyte salts, and (B) electrodes containing active mass and block copolymers having blocks of [CR1aR2aCR3aCO2(CR4b1HCR4a1HO)m1R5a] (R1a-R3a = H, C1-10 hydrocarbon group; R4a1, R4b1 = H, Me; R5a = H, hydrocarbon group, acyl, silyl; m1 = 2-100) sandwiched between blocks of (CR6aR7aCR8aR9a) (R6a-R8a = H, C1-10 hydrocarbon group; R9a = aryl). The batteries, having crosslinked ion-conductive copolymers in electrolytes and noncrosslinked ion-conductive copolymers containing same repeating units to the electrolyte copolymers in electrodes, show good discharge capacity and charge-discharge efficiency.

IT 697284-07-4DP, lithium complex
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (comb structure-containing, electrode component; solid polymer electrolyte batteries with good cycle efficiency)

RN 697284-07-4 HCAPLUS

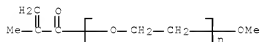
CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)- ω -methoxy-, polymer with ethenylbenzene, triblock (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

CCI PMS



CM 2

CRN 100-42-5

CMF C8 H8



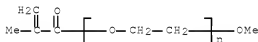
IT 849950-63-6P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (comb structure-containing; solid polymer electrolyte
 batteries with good cycle efficiency)
 RN 849950-63-6 HCAPLUS
 CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with ethenylbenzene
 and α -(2-methyl-1-oxo-2-propenyl)- α -methoxypoly(oxy-1,2-
 ethanediyl), pentablock (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

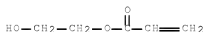
CCI PMS



CM 2

CRN 818-61-1

CMF C5 H8 O3



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM H01M010-40
 ICS C08F297-02
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38
 ST polymer solid electrolyte battery electrode
 polyoxyalkylene; electrode lithium perchlorate polyoxyethylene
 methacrylate styrene block; electrolyte hydroxyethyl
 acrylate polyoxyethylene methacrylate styrene block; TDI
 crosslinking agent electrolyte polyoxyethylene block

- IT Polyoxyalkylenes, uses
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(acrylic, block, comb structure-containing, triblock, electrode component; solid polymer electrolyte batteries with good cycle efficiency)
- IT Polyoxyalkylenes, uses
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(acrylic, comb structure-containing, electrolyte component; solid polymer electrolyte batteries with good cycle efficiency)
- IT Epoxides
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking agents; solid polymer electrolyte batteries with good cycle efficiency)
- IT Carbon black, uses
RL: DEV (Device component use); USES (Uses)
(elec. conductor in cathodes; solid polymer electrolyte batteries with good cycle efficiency)
- IT Acids, uses
Alkali metal salts
Phosphonium compounds
Quaternary ammonium compounds, uses
Transition metal salts
RL: DEV (Device component use); USES (Uses)
(electrolyte salts; solid polymer electrolyte batteries with good cycle efficiency)
- IT Electric conductors
(in cathodes; solid polymer electrolyte batteries with good cycle efficiency)
- IT Battery cathodes
Battery electrodes
Battery electrolytes
Crosslinking agents
Polymer electrolytes
Secondary batteries
(solid polymer electrolyte batteries with good cycle efficiency)
- IT 697284-07-4DP, lithium complex
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(comb structure-containing, electrode component; solid polymer electrolyte batteries with good cycle efficiency)
- IT 866555-50-2DP, lithium complex
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(comb structure-containing, electrolyte component; solid polymer electrolyte batteries with good cycle efficiency)
- IT 849950-63-6P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(comb structure-containing; solid polymer electrolyte batteries with good cycle efficiency)
- IT 584-84-9, 2,4-TDI
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking agent; solid polymer electrolyte batteries with good cycle efficiency)
- IT 7791-03-9, Lithium perchlorate

RL: DEV (Device component use); USES (Uses)
 (electrolyte salt, complex with poly(ethylene
 oxide)-containing block copolymers; solid polymer electrolyte
 batteries with good cycle efficiency)

IT 7439-93-2DP, Lithium, complex with poly(ethylene oxide)-containing block
 copolymers

RL: DEV (Device component use); IMF (Industrial manufacture); PREP
 (Preparation); USES (Uses)
 (solid polymer electrolyte batteries with good cycle
 efficiency)

L18 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2009 ACS ON STN

ACCESSION NUMBER: 2005:323497 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 142:395064

TITLE: Polymer solid electrolytic electric
 battery, electrode and those production methods

INVENTOR(S): Kanamura, Kiyoshi; Kawamura, Kiyoshi; Shintani,
 Takeshi; Shimada, Mikiya; Aoyagi, Koichiro

PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 40 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005100966	A	20050414	JP 2004-240036	200408 19

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PRIORITY APPLN. INFO.:	JP 2003-295880	A	200308 20
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AB The disclosed battery contains polymer electrolyte comprising block copolymer
 having ethylene glycol derivative-acrylic acid derivative ester polymer block,
 and vinyl polymer block(s). The disclosed electrodes for the battery contains
 electrode active substance, an electrolyte salt, and the block copolymer.
 Fabrication process for the battery is also disclosed. The polymer
 electrolyte has excellent thermal stability, phys. properties, and ion
 conductivity

IT 697284-07-4P 849950-63-6P

RL: SPN (Synthetic preparation); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (polymer electrolytes for lithium batteries)

RN 697284-07-4 HCAPLUS

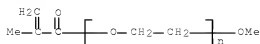
CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -methoxy-, polymer with ethenylbenzene, triblock (CA INDEX
 NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

CCI PMS



CM 2

CRN 100-42-5

CMF C8 H8



RN 849950-63-6 HCAPLUS

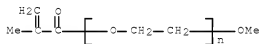
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with ethenylbenzene
and α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-ethanediyl), pentablock (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

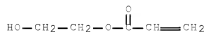
CCI PMS



CM 2

CRN 818-61-1

CMF C5 H8 O3



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM H01M010-40

ICS C08F293-00; H01B001-06; H01M004-02; H01M004-04; H01M004-60
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST block copolymer electrolyte lithium secondary battery
 IT Battery cathodes
 (block copolymer electrolytes for)
 IT Polymer electrolytes
 (block copolymers containing methoxypolyethylene glycol
 monomethacrylate polymer block as)
 IT 7791-03-9, Lithium perchlorate
 RL: TEM (Technical or engineered material use); USES (Uses)
 (electrolytes for lithium batteries)
 IT 697284-07-4P 849950-63-6P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (polymer electrolytes for lithium batteries)
 OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS
 RECORD (2 CITINGS)

L18 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2009 ACS ON STN
 ACCESSION NUMBER: 2005:260319 HCAPLUS Full-text
 DOCUMENT NUMBER: 142:339051
 TITLE: Composition for polymer solid
 electrolyte, polymer solid
 electrolyte, polymer solid
 electrolyte battery, ion-conductive
 membrane, copolymer and process for producing
 the copolymer
 INVENTOR(S): Muramoto, Hiroo; Niitani, Takeshi; Aoyagi,
 Koichiro
 PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 128 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005027144	A1	20050324	WO 2004-JP576	20040123
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JP 2005089510	A	20050407	JP 2003-321155	20030912

EP 1667168 A1 20060607 EP 2004-704735 20040123
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 SK
 US 20070040145 A1 20070222 US 2006-571998 20060309
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 KR 2006106820 A 20061012 KR 2006-706986 20060411
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 KR 779895 B1 20071128
 PRIORITY APPLN. INFO.: JP 2003-321155 A 20030912
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 WO 2004-JP576 W 20040123
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ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Polymer solid electrolytes excelling in thermal properties, phys. properties and ion conductivity and being close to practical level for use in batteries are disclosed. In particular, a composition for polymer solid electrolyte characterized in that the composition contains a copolymer and an electrolyte salt, the copolymer having repeating units of the formula:
 [CR1R2CR3CO2 (CHR4aCHR4bO)mR5] (R1, R2, R3 = H, C1-C10 hydrocarbyl; R4a, R4b = H, Me; Me; R5 = H, hydrocarbyl, acyl, silyl; and m is an integer of 1 to 100) and repeating units of the formula: CR6R7CR8R9 (R6, R7, R8 = H, C1-C10 hydrocarbyl; R9 = an organic group having at least one functional group selected from hydroxyl, carboxyl, epoxy, an acid anhydride group and amino).

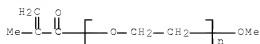
IT 697284-07-4P 848439-41-8DP, desilylated
 848439-42-9DP, desilylated 848439-43-0DP,
 deethylated 848439-44-1DP, debutylated
 848442-02-4DP, desilylated 848442-03-5P
 849950-63-6P 877834-07-6P
 877837-29-1DP, desilylated
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polymer electrolyte compns. containing)

RN 697284-07-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)- ω -methoxy-, polymer with ethenylbenzene, triblock (CA INDEX NAME)

CM 1

CRN 26915-72-0
 CMF (C2 H4 O)n C5 H8 O2
 CCI PMS



CM 2

CRN 100-42-5

CMF C8 H8



RN 848439-41-8 HCAPLUS

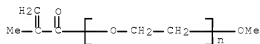
CN 2-Propenoic acid, 2-methyl-, 2-[(trimethylsilyl)oxy]ethyl ester,
polymer with ethenylbenzene and
 α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-
ethanediyl), triblock (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

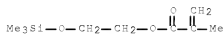
CCI PMS



CM 2

CRN 17407-09-9

CMF C9 H18 O3 Si



CM 3

CRN 100-42-5

CMF C8 H8



RN 848439-42-9 HCAPLUS

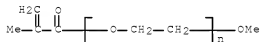
CN 2-Propenoic acid, 2-methyl-, trimethylsilyl ester, polymer with
 α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-ethanediyl), diblock (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

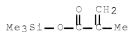
CCI PMS



CM 2

CRN 13688-56-7

CMF C7 H14 O2 Si



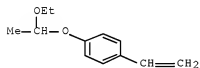
RN 848439-43-0 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propenyl)-
 ω -methoxy-, polymer with ethenylbenzene and
 1-ethenyl-4-(1-ethoxyethoxy)benzene, triblock (9CI) (CA INDEX NAME)

CM 1

CRN 157057-20-0

CMF C12 H16 O2

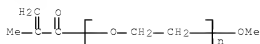


CM 2

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

CCI PMS



CM 3

CRN 100-42-5

CMF C8 H8



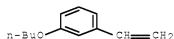
RN 848439-44-1 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propenyl)-
 ω -methoxy-, polymer with 1-butoxy-3-ethenylbenzene and
 ethenylbenzene, block, graft (9CI) (CA INDEX NAME)

CM 1

CRN 156660-60-5

CMF C12 H16 O

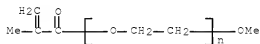


CM 2

CRN 26915-72-0

CMF (C2 H4 O)_n C5 H8 O2

CCI PMS



CM 3

CRN 100-42-5

CMF C8 H8



RN 848442-02-4 HCAPLUS

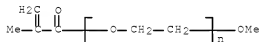
CN 2-Propenoic acid, 2-methyl-, 2-[(trimethylsilyl)oxy]ethyl ester,
polymer with α -(2-methyl-1-oxo-2-propenyl)- ω -
methoxypoly(oxy-1,2-ethanediyl), triblock (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)_n C5 H8 O2

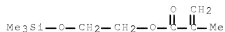
CCI PMS



CM 2

CRN 17407-09-9

CMF C9 H18 O3 Si



RN 848442-03-5 HCAPLUS

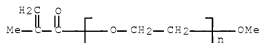
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with
ethenylbenzene and α -(2-methyl-1-oxo-2-propenyl)- ω -
methoxypoly(oxy-1,2-ethanediyl), triblock (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)_n C5 H8 O2

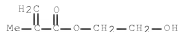
CCI PMS



CM 2

CRN 868-77-9

CMF C6 H10 O3



CM 3

CRN 100-42-5

CMF C8 H8



RN 849950-63-6 HCAPLUS

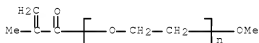
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with ethenylbenzene and α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-ethanediyl), pentablock (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)_n C5 H8 O2

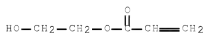
CCI PMS



CM 2

CRN 818-61-1

CMF C5 H8 O3



CM 3

CRN 100-42-5

CMF C8 H8

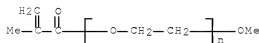


RN 877834-07-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with ethenylbenzene and α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-ethanediyl), graft (9CI) (CA INDEX NAME)

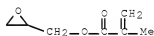
CM 1

CRN 26915-72-0
 CMF (C2 H4 O)_n C5 H8 O2
 CCI PMS



CM 2

CRN 106-91-2
 CMF C7 H10 O3



CM 3

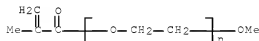
CRN 100-42-5
 CMF C8 H8



RN 877837-29-1 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, trimethylsilyl ester, polymer with
 ethenylbenzene and α -(2-methyl-1-oxo-2-propenyl)- ω -
 methoxypoly(oxy-1,2-ethanediyl), pentablock (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0
 CMF (C2 H4 O)_n C5 H8 O2
 CCI PMS



CM 2

CRN 13688-56-7
 CMF C7 H14 O2 Si



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM H01B001-06
ICS C08L033-14; C08L053-00; C08F297-00; H01M006-18; H01M010-40;
H01M004-60

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 35

ST compn polymer solid electrolyte battery; ion conductive
film polymer

IT Polymer electrolytes
(polyalkylene glycol acrylate block copolymers as)

IT 19438-60-9, 4-Methylhexahydrophthalic anhydride 31305-94-9, YH-434
RL: MOA (Modifier or additive use); USES (Uses)
(cross linking agent; polymer electrolyte compns.
containing)

IT 584-84-9, Tolyene 2,4-diisocyanate 7791-03-9, Lithium perchlorate
RL: MOA (Modifier or additive use); USES (Uses)
(polymer electrolyte compns. containing)

IT 697284-07-4P 848439-41-8DP, desilylated
848439-42-9DP, desilylated 848439-43-0DP,
deethylated 848439-44-1DP, debutylated
848442-02-4DP, desilylated 848442-03-5P
849950-63-6P 877834-07-6P
877837-29-1DP, desilylated
RL: SPN (Synthetic preparation); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(polymer electrolyte compns. containing)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
RECORD (2 CITINGS)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L18 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2009 ACS ON STN

ACCESSION NUMBER: 2004:80751 HCAPLUS Full-text

DOCUMENT NUMBER: 140:149116

TITLE: Solid polymer electrolyte

INVENTOR(S): Muramoto, Hiroo; Niitani, Takeshi

PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan

SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

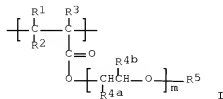
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004009663	A1	20040129	WO 2003-JP9328	20030723
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, BG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003252245	A1	20040209	AU 2003-252245	20030723
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JP 2004107641	A	20040408	JP 2003-200804	20030723
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JP 4155882	B2	20080924		
EP 1553117	A1	20050713	EP 2003-765362	20030723
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EP 1553117	B1	20070117		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1668662	A	20050914	CN 2003-817326	20030723
<--				
US 20050256256	A1	20051117	US 2005-523085	20050202
<--				
US 7579401	B2	20090825		
PRIORITY APPLN. INFO.:				
			JP 2002-214603	A
<--				
			WO 2003-JP9328	W
<--				

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
GI



AB The present invention relates to (i) a solid polymer electrolyte which is excellent in thermal properties, phys. properties, and ionic conductivity and is on a level close to a practical level, especially a wholly solid electrolyte and (ii) a copolymer composition serving as a base for producing the electrolyte. The solid polymer electrolyte comprises (A) a copolymer comprising a block chain A comprising repeating units I, a block chain B comprising repeating units (CR⁶R⁷/CR⁸R⁹), and a block chain C comprising repeating units (CR¹⁰R¹¹/CR¹²R¹³), these chains being arranged in the order of B, A, and C, and (B) an electrolyte salt, wherein R¹, R², R³ = independently H or C₁-10 hydrocarbon, R¹ and R³ may form a ring; R⁴_a, R⁴_b = independently H or methyl; R⁵ = H, hydrocarbon, acyl, or silyl group; R⁶, R⁷, R⁸, R¹⁰, R¹¹, R¹² = independently H or C₁-10 hydrocarbon; R⁹ = aryl; R¹³ = aryl or heteroaryl; and m = 2-100 integer. Thus, 22.35 g Blemmer PME 1000 was polymerized in the presence of dichlorotris(triphenylphosphine)ruthenium, di-n-butylamine, and 2,2-dichloroacetophenone to give a polymer with Mn 122,500, 6.13 g of which was polymerized with 2.60 g styrene to give a styrene-polyoxyalkylene graft block copolymer with Mn 135,000, 1 g of which was mixed with 0.09 g lithium perchlorate, cast on a Teflon plat, and dried at room temperature for 24 h and 60° for 24 h to give a solid polymer electrolyte with ionic conductivity 3.8 + 10⁻⁴ S/cm at 23°.

IT 697284-07-4P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(triblock; preparation of solid polymer electrolytes with good thermal properties, phys. properties, and ionic conductivity)

RN 697284-07-4 HCAPLUS

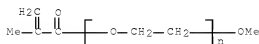
CN Poly(oxy-1,2-ethanediy1), α-(2-methyl-1-oxo-2-propen-1-yl)-o-methoxy-, polymer with ethenylbenzene, triblock (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

CCI PMS



CM 2

CRN 100-42-5

CMF C8 H8



IT 697284-07-4DP, lithium complexes, perchlorate-containing
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical
 or engineered material use); PREP (Preparation); USES (Uses)
 (triblock; preparation of solid polymer electrolytes with
 good thermal properties, phys. properties, and ionic conductivity)

RN 697284-07-4 HCAPLUS

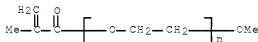
CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -methoxy-, polymer with ethenylbenzene, triblock (CA INDEX
 NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)_n C5 H8 O2

CCI PMS



CM 2

CRN 100-42-5

CMF C8 H8



IC ICM C08F297-00
 ICS H01B001-06

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38

ST solid polymer electrolyte; styrene Blemmer graft block
 copolymer lithium perchlorate solid electrolyte

IT Membranes, nonbiological
 (elec. conductive; preparation of solid polymer electrolytes
 with good thermal properties, phys. properties, and ionic conductivity)

IT Acids, uses
 Alkali metal salts
 Phosphonium compounds
 Quaternary ammonium compounds, uses
 Transition metal salts

RL: MOA (Modifier or additive use); USES (Uses)
 (electrolytic salts; preparation of solid polymer
 electrolytes with good thermal properties, phys.
 properties, and ionic conductivity)

IT Secondary batteries
(lithium; preparation of solid polymer electrolytes with good thermal properties, phys. properties, and ionic conductivity)

IT Polymerization
(living, radical; preparation of solid polymer electrolytes with good thermal properties, phys. properties, and ionic conductivity)

IT Ionic conductors
(polymeric; preparation of solid polymer electrolytes with good thermal properties, phys. properties, and ionic conductivity)

IT Polyoxyalkylenes, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polystyrene-, block, graft, lithium complexes; preparation of solid polymer electrolytes with good thermal properties, phys. properties, and ionic conductivity)

IT Polymer electrolytes
(preparation of solid polymer electrolytes with good thermal properties, phys. properties, and ionic conductivity)

IT 9003-53-6P, Styrene homopolymer 87105-87-1P, Blemmer PME 1000 homopolymer
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate, living polymer; preparation of solid polymer electrolytes with good thermal properties, phys. properties, and ionic conductivity)

IT 7439-93-2DP, Lithium, polyoxyalkylene complexes, perchlorate-containing
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of solid polymer electrolytes with good thermal properties, phys. properties, and ionic conductivity)

IT 846568-02-3P, Ethylene oxide-styrene triblock graft copolymer
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of solid polymer electrolytes with good thermal properties, phys. properties, and ionic conductivity)

IT 112119-04-7DP, lithium complexes, perchlorate-containing 112119-04-7P 651724-21-9P 697284-07-4P 846569-40-2P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(triblock; preparation of solid polymer electrolytes with good thermal properties, phys. properties, and ionic conductivity)

IT 651724-21-9DP, lithium complexes, perchlorate-containing 697284-07-4DP, lithium complexes, perchlorate-containing 846569-40-2DP, lithium complexes, perchlorate-containing
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(triblock; preparation of solid polymer electrolytes with good thermal properties, phys. properties, and ionic conductivity)

OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (9 CITINGS)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ORIGINAL REFERENCE NO.: 111:6827a,6830a
 TITLE: ABA triblock comb copolymers with oligo(oxyethylene) side chains as matrix for ion transport
 AUTHOR(S): Khan, Ishrat M.; Fish, Daryle; Delaviz, Yadollah; Smid, Johannes
 CORPORATE SOURCE: Coll. Environ. Sci. Forestry, State Univ. New York, Syracuse, NY, 13210, USA
 SOURCE: Makromolekulare Chemie (1989), 190(5), 1069-78
 CODEN: MACEAK; ISSN: 0025-116X
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB ABA triblock copolymers consisting of two terminal blocks (A) of comblike polymethacrylate with oligo(oxyethylene) (average d.p. 8) side chains and a middle block B of polystyrene were synthesized by anionic polymerization. The polymers were then solution cast from THF solns. of LiClO₄ and the homogeneous, solvent-free polymer electrolyte systems tested for their thermal characteristics (DSC) and conductivity. The inclusion of a polystyrene block in the comblike polymethacrylate electrolyte vastly improved their film-forming and mech. properties, but also lowered the conductivity. Addition of MeO(CH₂CH₂O)₄Me enhanced the ion conduction which could reach values of 10⁻⁴ Ω⁻¹cm⁻¹ at 70°, depending on salt and styrene content.

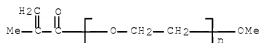
IT 697284-07-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and characterization of)

RN 697284-07-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-(2-methyl-1-oxo-2-propen-1-yl)-o-methoxy-, polymer with ethenylbenzene, triblock (CA INDEX NAME)

CM 1

CRN 26915-72-0
 CMF (C2 H4 O)_n C5 H8 O2
 CCI PMS



CM 2

CRN 100-42-5
 CMF C8 H8



IT 697284-07-4DP, lithium complexes
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and elec. conductivity of)

RN 697284-07-4 HCAPLUS

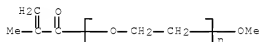
CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
o-methoxy-, polymer with ethenylbenzene, triblock (CA INDEX
NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)_n C5 H8 O2

CCI PMS



CM 2

CRN 100-42-5

CMF C8 H8



CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36

IT 112119-04-7P 697284-07-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of)IT 7439-93-2DP, Lithium, complexes with
 α -methacryloyl-o-methoxypolyethylene glycol-styrene
block graft copolymers 112119-04-7DP, lithium complexes
121653-08-5DP, Me ether, lithium complexes 697284-07-4DP
, lithium complexesRL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(preparation and elec. conductivity of)

OS.CITING REF COUNT: 22 THERE ARE 22 CAPLUS RECORDS THAT CITE THIS
RECORD (22 CITINGS)

=> d ibib abs hitstr hitind l32 1-22

L32 ANSWER 1 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2006:632998 HCAPLUS Full-text

DOCUMENT NUMBER: 145:112030

TITLE: Solid polymer electrolyte
compositions and solid polymer
electrolytes having excellent thermal
characteristics, mechanical strength and ion
conductivity for electrochemical devices

INVENTOR(S): Shintani, Takeshi

PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.

DOCUMENT TYPE: CODEN: JKXXAF
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: 1 Japanese
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006172822	A	20060629	JP 2004-361520	20041214

PRIORITY APPLN. INFO.: JP 2004-361520
 20041214

AB Solid polymer electrolyte compns. contain copolymers having repeating unit containing cyclic functional group having ring-opening ability and repeating unit having ion conductive part and electrolytic salts. The cyclic functional group having ring-opening ability is groups having cycloalkane aryl structure, cycloalkadiene aryl structure, cyclobutene aryl structure or cyclobutadiene aryl structure. Solid polymer electrolytes are obtained from the solid polymer electrolyte compns. by ring-opening reaction. The copolymers have number-average mol. weight of 5000-1,000,000 and are coupling-crosslinked to obtain crosslinked polymers. The solid polymer electrolyte compns. are used as electrochem. device materials such as battery, capacitor, sensor, photoelec. conversion device, etc.

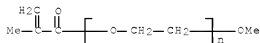
IT 112119-04-7P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (solid polymer electrolyte compns. and solid polymer electrolytes having excellent thermal characteristics, mech. strength and ion conductivity for electrochem. devices)

RN 112119-04-7 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)- ω -methoxy-, polymer with ethenylbenzene, block (CA INDEX NAME)

CM 1

CRN 26915-72-0
 CMF (C2 H4 O)_n C5 H8 O2
 CCI PMS



CM 2

CRN 100-42-5
 CMF C8 H8

H₂C=CH—Ph

CC 72-11 (Electrochemistry)
Section cross-reference(s): 38, 52, 76, 79, 80
ST solid polymer electrolyte electrochem device
IT Electric apparatus
(electrochem.; solid polymer
electrolyte compns. and solid
polymer electrolytes having excellent thermal
characteristics, mech. strength and ion conductivity for electrochem.
devices)
IT Capacitors
Fuel cells
Sensors
(solid polymer electrolyte
compns. and solid polymer
electrolytes having excellent thermal characteristics,
mech. strength and ion conductivity for)
IT Polymer electrolytes
(solid polymer electrolyte
compns. and solid polymer
electrolytes having excellent thermal characteristics,
mech. strength and ion conductivity for electrochem. devices)
IT 92361-49-4P 99717-87-0P 112119-04-7P
RL: SPN (Synthetic preparation); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(solid polymer electrolyte
compns. and solid polymer
electrolytes having excellent thermal characteristics,
mech. strength and ion conductivity for electrochem. devices)
IT 90076-65-6
RL: TEM (Technical or engineered material use); USES (Uses)
(solid polymer electrolyte
compns. and solid polymer
electrolytes having excellent thermal characteristics,
mech. strength and ion conductivity for electrochem. devices)

L32 ANSWER 2 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2004:670917 HCAPLUS Full-text
DOCUMENT NUMBER: 141:382102
TITLE: Liquid polymerizable composition for
producing solid electrolytes
and method for its curing
INVENTOR(S): Kotova, A. V.; Matveeva, I. A.; Varlamova, N.
V.; Zapadinskii, B. I.; Efimov, O. N.;
Yarmolenko, O. V.
PATENT ASSIGNEE(S): Russia
SOURCE: Russ., No pp. given
CODEN: RUXXE7
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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RU 2234168

C1

20040810

RU 2002-133062

200212

10

←---

PRIORITY APPLN. INFO.:

RU 2002-133062

200212

10

←--

AB Compsns. are provided for producing solid electrolytes and electrochem. method for various electrochem. devices. The proposed liquid polymerizable compn. incorporates reactive compds. and a nonaq. solution of lithium salt having 1.0 to 1.5M of nonaq. lithium salt solution as well as oligourethane methacrylate and polypropylene glycol monomethacrylate as the reactive compound. The total amount of oligourethane methacrylate and polypropylene glycol monomethacrylate in the nonaq. solution of lithium salt amts. to 12-17 mass percent and their mass proportion is 1 : 1-1.1. The method for curing the proposed composition includes addition of 1.9-2.1 mass percent of a polymerization photoinitiator per total amount of oligourethane methacrylate and polypropylene glycol monomethacrylate. The curing is conducted under UV irradiations. This production process enhanced the strength of solid electrolytes and reduced the production process time.

IT 782472-16-6P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(liquid polymerizable composition for producing solid electrolytes and method for curing)

RN 782472-16-6 HCAPLUS

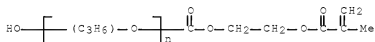
CN Poly(oxy-1,4-butanediyl), α -[[[methyl-3-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]carbonyl]amino]phenyl]amino]carbonyl]- ω -[[[methyl-3-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]carbonyl]amino]phenyl]amino]carbonyl]oxy]-, polymer with α -[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]carbonyl]- ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 782472-14-4

$$\text{CMF} \quad (\text{C}_3 \text{ H}_6 \text{ O})_n \text{ C}_7 \text{ H}_{10} \text{ O}_5$$

CCI IDS, PMS



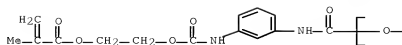
CM 2

CRN 90638-50-9

CMF (C4 H8 O)_n C30 H34 N4 O11

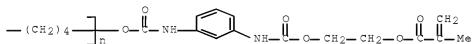
CCI IDS, PMS

PAGE 1-A



2 (D1-Me)

PAGE 1-B



IT 90638-50-9D, oligourethane derivs. 782472-14-4

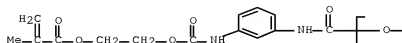
RL: RCT (Reactant); RACT (Reactant or reagent)

(liquid polymerizable composition for producing solid electrolytes and method for curing)

RN 90638-50-9 HCAPLUS

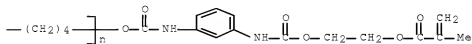
CN Poly(oxy-1,4-butanediyl), α -[[[methyl-3-[[[2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]ethoxy]carbonyl]amino]phenyl]amino]carbonyl]-
 ω -[[[[methyl-3-[[[2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]ethoxy]carbonyl]amino]phenyl]amino]carbonyl]oxy]- (CA INDEX NAME)

PAGE 1-A



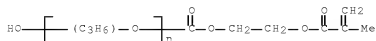
2 (D1-Me)

PAGE 1-B



RN 782472-14-4 HCAPLUS

CN Poly[oxy(methyl-1,2-ethanediyl)],

 α -[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]carbonyl]- ω -hydroxy- (9CI) (CA INDEX NAME)


IC ICM H01M006-18
ICS H01M004-62

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 35, 72, 76

ST polymn solid polymer electrolyte lithium battery
acrylic amide polyoxyalkylene

IT Polyurethanes, uses
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic-polyoxyalkylene-, polyoxyalkylene-containing; liquid polymerizable composition for producing solid electrolytes and method for curing)

IT Polymer electrolytes
Solid electrolytes
(liquid polymerizable composition for producing solid electrolytes and method for curing)

IT Ionic conductivity
(of electrolytes; liquid polymerizable composition for producing solid electrolytes and method for curing)

IT Elongation, mechanical
(of solid electrolytes under load; liquid polymerizable composition for producing solid electrolytes and method for curing)

IT Polymerization
(photopolymn.; liquid polymerizable composition for producing solid electrolytes and method for curing)

IT Acrylic polymers, uses
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyoxyalkylene-, graft, amide-containing; liquid polymerizable composition for producing solid electrolytes and method for curing)

IT 782472-16-6P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(liquid polymerizable composition for producing solid electrolytes and method for curing)

IT 21324-40-3P, Lithium hexafluorophosphate
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(liquid polymerizable composition for producing solid electrolytes and method for curing)

IT 96-48-0, γ -Butyrolactone 96-49-1, Ethylene carbonate
616-38-6, Dimethyl carbonate 7791-03-9, Lithium perchlorate
9003-07-0, Polypropylene 12597-68-1, Stainless steel, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(liquid polymerizable composition for producing solid electrolytes and method for curing)

IT 7440-37-1, Argon, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(liquid polymerizable composition for producing solid electrolytes and method for curing)

IT 1314-56-3, Diphosphorus pentaoxide, reactions 90638-50-9D
 , oligourethane derivs. 782472-14-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (liquid polymerizable composition for producing solid
 electrolytes and method for curing)

L32 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2004:609449 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:165708
 TITLE: Composition of polymer solid
 electrolyte
 INVENTOR(S): Muramoto, Hiroo; Shintani, Takeshi
 PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004213940	A	20040729	JP 2002-379656	200212 27
			<--	
PRIORITY APPLN. INFO.:			JP 2002-379656	200212 27

AB The title material is a total solid electrolyte and is characterized by having excellent thermal, phys., and ion conductive property. The polymer has an average mol. weight of 5000-1,000,000 and could contain the following substitution groups: hydrocarbon, acyl, silyl, carboxyl, hydroxide, amino group, ester group, and epoxy group. The repeating units of the defined group take 1-95% of the total repeating units in the copolymer. The electrolyte can be used for manufacturing of elec. cell, capacitor, sensor, EC element, or electro-optical conversion element.

IT 64696-14-6P 728930-40-3P
 728930-41-4P 728938-25-8P 728938-30-5P
 728938-31-6P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (composition of polymer solid
 electrolyte for manufacturing of electrochem. devices)

RN 64696-14-6 HCAPLUS

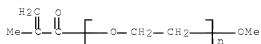
CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with ethenylbenzene and α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

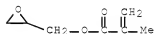
CCI PMS



CM 2

CRN 106-91-2

CMF C7 H10 O3



CM 3

CRN 100-42-5

CMF C8 H8



RN 728930-40-3 HCAPLUS

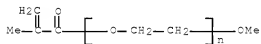
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with ethenylbenzene and α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)_n C5 H8 O2

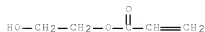
CCI PMS



CM 2

CRN 818-61-1

CMF C5 H8 O3



CM 3

CRN 100-42-5

CMF C8 H8



RN 728930-41-4 HCAPLUS

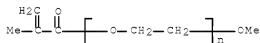
CN Phenol, 4-ethenyl-, polymer with ethenylbenzene and α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)_n C5 H8 O2

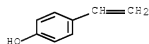
CCI PMS



CM 2

CRN 2628-17-3

CMF C8 H8 O



CM 3

CRN 100-42-5

CMF C8 H8



RN 728938-25-8 HCAPLUS

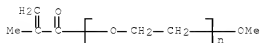
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with ethenylbenzene and α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

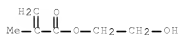
CCI PMS



CM 2

CRN 868-77-9

CMF C6 H10 O3



CM 3

CRN 100-42-5

CMF C8 H8



RN 728938-30-5 HCAPLUS

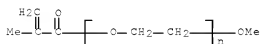
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with
 α -(2-methyl-1-oxo-2-propen-1-yl)- ω -methoxypoly(oxy-1,2-ethanediyl), block (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

CCI PMS



CM 2

CRN 868-77-9

CMF C6 H10 O3



RN 728938-31-6 HCAPLUS

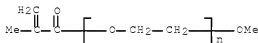
CN 2-Propenoic acid, 2-methyl-, polymer with
 α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

CCI PMS



CM 2

CRN 79-41-4

CMF C4 H6 O2



IC ICM H01B001-06

ICS C08F297-02; C08K003-00; C08K005-00; C08L033-14; C08L053-00;
 C08L057-00; H01M006-18; H01M010-40

CC 76-2 (Electric Phenomena)

Section cross-reference(s): 36

ST compn polymer solid electrolyte

IT Capacitors

Sensors

(composition of polymer solid
 electrolyte for manufacturing of electrochem. devices)

IT Polymers, uses

RL: SPN (Synthetic preparation); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)

(composition of polymer solid
 electrolyte for manufacturing of electrochem. devices)

IT Electric apparatus

(electrochem.; composition of polymer
 solid electrolyte for manufacturing of electrochem.
 devices)

IT Solid electrolytes

(polymer; composition of polymer
 solid electrolyte for manufacturing of electrochem.)

devices)
 IT 64696-14-6P 728930-40-3P
 728930-41-4P 728938-25-8P 728938-30-5P
 728938-31-6P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (composition of polymer solid electrolyte for manufacturing of electrochem. devices)
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L32 ANSWER 4 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2003:872453 HCAPLUS Full-text
 DOCUMENT NUMBER: 139:367504
 TITLE: Resin composition for polymer solid electrolyte, polymer solid electrolyte and polymer electric batteries.
 INVENTOR(S): Mori, Akira
 PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003317540	A	20031107	JP 2002-118776	20020422

PRIORITY APPLN. INFO.: JP 2002-118776
 20020422

AB The disclosed polymer electrolyte composition consists of (1) a curable polymer having cyano groups and ethylenic double bonds in side chains and having ethylenic double bond equivalent of ≤850, (2) a plasticizer, and (3) an electrolyte. Batteries containing the polymer electrolyte membranes are also disclosed. The polymer compns. give membrane with good strength and ion conductivity

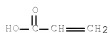
IT 622337-80-8P, Cyanoethyl acrylate-glycidyl methacrylate copolymer acrylate ester 622337-83-1P, Cyanoethyl acrylate-glycidyl methacrylate-methyl acrylate copolymer acrylate ester 622337-85-3P, Butyl acrylate-cyanoethyl acrylate-glycidyl methacrylate copolymer acrylate ester
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (curable resin compns. for solid polymer electrolyte membranes for batteries)

RN 622337-80-8 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with 2-cyanoethyl 2-propenoate, 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 622337-79-5

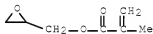
CMF (C7 H10 O3 . C6 H7 N O2)x

CCI PMS

CM 3

CRN 106-91-2

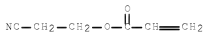
CMF C7 H10 O3



CM 4

CRN 106-71-8

CMF C6 H7 N O2



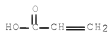
RN 622337-83-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with
2-cyanoethyl 2-propenoate and methyl 2-propenoate, 2-propenoate
(9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



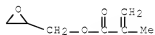
CM 2

CRN 622337-82-0

CMF (C7 H10 O3 . C6 H7 N O2 . C4 H6 O2)x
 CCI PMS

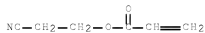
CM 3

CRN 106-91-2
 CMF C7 H10 O3



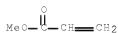
CM 4

CRN 106-71-8
 CMF C6 H7 N O2



CM 5

CRN 96-33-3
 CMF C4 H6 O2

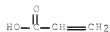


RN 622337-85-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with
 butyl 2-propenoate and 2-cyanoethyl 2-propenoate, 2-propenoate (9CI)
 (CA INDEX NAME)

CM 1

CRN 79-10-7
 CMF C3 H4 O2



CM 2

CRN 136733-74-9

CMF (C7 H12 O2 . C7 H10 O3 . C6 H7 N O2)x
CCI PMS

CM 3

CRN 141-32-2
CMF C7 H12 O2



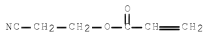
CM 4

CRN 106-91-2
CMF C7 H10 O3



CM 5

CRN 106-71-8
CMF C6 H7 N O2



- IC ICM H01B001-06
ICS C08F290-12; H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT Plasticizers
(for curable resin compns. for solid
polymer electrolyte membranes for batteries)
IT Secondary batteries
(lithium; curable resin compns. for solid
polymer electrolyte membranes for batteries)
IT Polymer electrolytes
(curable resin compns. for solid
polymer electrolyte membranes for batteries)
IT 622337-80-8P, Cyanoethyl acrylate-glycidyl methacrylate
copolymer acrylate ester 622337-83-1P, Cyanoethyl
acrylate-glycidyl methacrylate-methyl acrylate copolymer acrylate
ester 622337-85-3P, Butyl acrylate-cyanoethyl
acrylate-glycidyl methacrylate copolymer acrylate ester
RL: SPN (Synthetic preparation); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(curable resin compns. for solid

- polymer electrolyte membranes for batteries)
- IT 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate
 RL: TEM (Technical or engineered material use); USES (Uses)
 (electrolyte; for curable resin compns. for solid polymer electrolyte membranes for batteries)
- IT 94-36-0, Benzoyl peroxide, uses
 RL: CAT (Catalyst use); USES (Uses)
 (initiator; for curable resin compns. for solid polymer electrolyte membranes for batteries)
- IT 162881-26-7, Bis(2,4,6-trimethylbenzoyl)phenylphosphine oxide
 RL: CAT (Catalyst use); USES (Uses)
 (photoinitiator; for curable resin compns. for solid polymer electrolyte membranes for batteries)
- IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate
 RL: MOA (Modifier or additive use); USES (Uses)
 (plasticizer; for curable resin compns. for solid polymer electrolyte membranes for batteries)

L32 ANSWER 5 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2003:872452 HCAPLUS Full-text
 DOCUMENT NUMBER: 139:367503
 TITLE: Resin composition for polymer solid electrolyte, polymer solid electrolyte and polymer electric batteries.
 INVENTOR(S): Mori, Akira
 PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003317539	A	20031107	JP 2002-118755	20020422
JP 3914088	B2	20070516		
PRIORITY APPLN. INFO.:			JP 2002-118755	20020422

- AB Disclosed polymer electrolyte composition consists of (1) a curable polymer having F atoms and ethylenic double bonds in side chains and having ethylenic double bond equivalent of ≤ 850 , (2) a plasticizer, and (3) an electrolyte. The batteries containing the polymer electrolyte are also disclosed. The electrolyte composition gives membranes having good strength and ion conductivity
- IT 622336-99-6P, Glycidyl methacrylate-tetrafluoropropyl acrylate copolymer acrylate ester 622337-01-3P, Glycidyl methacrylate-methyl acrylate-tetrafluoropropyl acrylate copolymer acrylate ester 622337-03-5P, Glycidyl methacrylate-ethyl

acrylate-tetrafluoropropyl acrylate copolymer acrylate ester
 RL: SPN (Synthetic preparation); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (curable resin compns. for solid
 polymer electrolyte membranes for batteries)

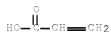
RN 622336-99-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with
 tetrafluoropropyl 2-propenoate, 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 622336-98-5

CMF (C7 H10 O3 . C6 H6 F4 O2)x

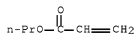
CCI PMS

CM 3

CRN 25154-39-6

CMF C6 H6 F4 O2

CCI IDS

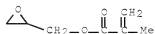


4 (D1-F)

CM 4

CRN 106-91-2

CMF C7 H10 O3

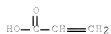


RN 622337-01-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with
 methyl 2-propenoate and tetrafluoropropyl 2-propenoate, 2-propenoate
 (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
 CMF C3 H4 O2

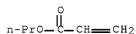


CM 2

CRN 622337-00-2
 CMF (C7 H10 O3 . C6 H6 F4 O2 . C4 H6 O2)x
 CCI PMS

CM 3

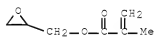
CRN 25154-39-6
 CMF C6 H6 F4 O2
 CCI IDS



4 (D1-F)

CM 4

CRN 106-91-2
 CMF C7 H10 O3



CM 5

CRN 96-33-3
 CMF C4 H6 O2



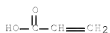
RN 622337-03-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with
ethyl 2-propenoate and tetrafluoropropyl 2-propenoate, 2-propenoate
(9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 622337-02-4

CMF (C7 H10 O3 . C6 H6 F4 O2 . C5 H8 O2)*

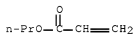
CCI PMS

CM 3

CRN 25154-39-6

CMF C6 H6 F4 O2

CCI IDS

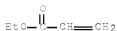


4 (D1-F)

CM 4

CRN 140-88-5

CMF C5 H8 O2



CM 5

CRN 106-91-2

CMF C7 H10 O3



IC ICM H01B001-06
ICS C08F299-00; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT Polymer electrolytes
(curable resin compns. for solid
polymer electrolyte membranes for batteries)

IT Plasticizers
(for curable resin compns. for solid
polymer electrolyte membranes for batteries)

IT Secondary batteries
(lithium; curable resin compns. for solid
polymer electrolyte membranes for batteries)

IT 622336-99-6P, Glycidyl methacrylate-tetrafluoropropyl
acrylate copolymer acrylate ester 622337-01-3P, Glycidyl
methacrylate-methyl acrylate-tetrafluoropropyl acrylate copolymer
acrylate ester 622337-03-5P, Glycidyl methacrylate-ethyl
acrylate-tetrafluoropropyl acrylate copolymer acrylate ester
RL: SPN (Synthetic preparation); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(curable resin compns. for solid
polymer electrolyte membranes for batteries)

IT 7791-03-9, Lithium perchlorate 14283-07-9, Lithium
tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate
RL: TEM (Technical or engineered material use); USES (Uses)
(electrolyte; for curable resin compns. for
solid polymer electrolyte membranes
for batteries)

IT 94-36-0, Benzoyl peroxide, uses
RL: MOA (Modifier or additive use); USES (Uses)
(initiator; for curable resin compns. for solid
polymer electrolyte membranes for batteries)

IT 162881-26-7, Bis(2,4,6-trimethylbenzoyl)phenylphosphine oxide
RL: TEM (Technical or engineered material use); USES (Uses)
(photoinitiator; for curable resin compns. for
solid polymer electrolyte membranes
for batteries)

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; for curable resin compns. for
solid polymer electrolyte membranes
for batteries)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
RECORD (1 CITINGS)

L32 ANSWER 6 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:757159 HCAPLUS Full-text

DOCUMENT NUMBER: 139:279098

TITLE: Composition and assembly methods of
solid polymer electrolyte for
use in electrochemical cells

INVENTOR(S): Oh, Bookeun; Amine, Khalil; Hyung, Yoo-Eup;
Viissers, Donald R.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 18 pp.

DOCUMENT TYPE: CODEN: USXXCO
 LANGUAGE: Patent
 English
 FAMILY ACC. NUM. COUNT: 14
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20030180624	A1	20030925	US 2002-104352	20020322
US 20030180625	A1	20030925	US 2002-167940	20020612
US 7498102	B2	20090303		
WO 2003083970	A1	20031009	WO 2003-US2127	20030122
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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WO 2003083971	A1	20031009	WO 2003-US2128	20030122
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AU 2003205313	A1	20031013	AU 2003-205313	20030122
AU 2003225530	A1	20031013	AU 2003-225530	20030122
WO 2003083972	A1	20031009	WO 2003-US8740	20030320

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WO 2003083973 A1 20031009 WO 2003-US8779

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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, BG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

WO 2003083974 A1 20031009 WO 2003-US8783

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AU 2003218329 A1 20031013 AU 2003-218329

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AU 2003223327 A1 20031013 AU 2003-223327

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AU 2003224731 A1 20031013 AU 2003-224731

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US 20040197665 A1 20041007 US 2004-487780

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US 20050019667	A1	20050127	US 2004-496230	
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US 7226702	B2	20070605		
US 20050019656	A1	20050127	US 2004-496231	
				20040520
PRIORITY APPLN. INFO.:			<--	
			US 2002-104352	A2
				20020322
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			US 2002-167940	A
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			WO 2003-US2127	W
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				20030226
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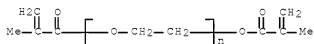
AB Disclosed is an improved solid electrolyte made of an interpenetrating network type solid polymer comprised of two compatible phases: a crosslinked polymer for mech. strength and chemical stability, and an ionic conducting phase. The highly branched siloxane polymer of the present invention has one or more poly(ethylene oxide) groups as a side chain. The PEO group is directly grafted to silicon atoms in the siloxane polymer. This kind of branched type siloxane polymer is stably anchored in the network structure and provides

continuous conducting paths in all directions throughout the IPN solid polymer electrolyte. Also disclosed is a method of making an electrochem. cell incorporating the electrolyte. A cell made accordingly has an extremely high cycle life and electrochem. stability.

IT 25852-47-5DP, Polyethylene glycol dimethacrylate, reaction product with polysiloxane and lithium imide salt
 35625-93-5DP, Polyethylene glycol methacrylate ethyl ether, reaction product with polysiloxane and lithium imide salt
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (composition and assembly methods of solid polymer electrolyte for use in electrochem. cells)

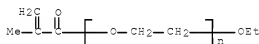
RN 25852-47-5 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)- ω -[(2-methyl-1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)



RN 35625-93-5 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)- ω -ethoxy- (CA INDEX NAME)



IC ICM H01M010-40

ICS H01M010-04

INCL 429313000; 429317000; 429309000; 029623500

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38, 72

ST lithium ion battery solid polymer electrolyte;
 electrochem cell solid polymer electrolyte

IT Polysiloxanes, uses

RL: DEV (Device component use); USES (Uses)
 (alkoxylated, graft; composition and assembly methods of solid polymer electrolyte for use in electrochem. cells)

IT Battery electrolytes

Ionic conductivity
 Polymer electrolytes
 (composition and assembly methods of solid polymer electrolyte for use in electrochem. cells)

IT Oxides (inorganic), uses

Polycarbonates, uses

Polyolefins

RL: DEV (Device component use); USES (Uses)
 (composition and assembly methods of solid polymer electrolyte for use in electrochem.

- cells)
IT Carbon black, uses
RL: MOA (Modifier or additive use); USES (Uses)
(composition and assembly methods of solid
polymer electrolyte for use in electrochem.
cells)
IT Secondary batteries
(lithium; composition and assembly methods of solid
polymer electrolyte for use in electrochem.
cells)
IT Polysiloxanes, uses
RL: DEV (Device component use); USES (Uses)
(polyoxyalkylene-, graft; composition and assembly methods
of solid polymer electrolyte for
use in electrochem. cells)
IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(polysiloxane-, graft; composition and assembly methods of
solid polymer electrolyte for use in
electrochem. cells)
IT Lithium alloy, base
RL: DEV (Device component use); USES (Uses)
(composition and assembly methods of solid
polymer electrolyte for use in electrochem.
cells)
IT 78-67-1 94-36-0, Benzoyl peroxide, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical
process); PROC (Process)
(composition and assembly methods of solid
polymer electrolyte for use in electrochem.
cells)
IT 7439-93-2, Lithium, uses 7440-44-0, Carbon, uses 7664-38-2D,
Phosphoric acid, alkyl fluoro derivative, lithium salt 7791-03-9,
Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate
21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium
hexafluoroarsenate 33454-82-9, Lithium triflate 90076-65-6
113066-89-0, Cobalt lithium nickeloxide Co_{0.2}LiNi_{0.8}O₂ 132404-42-3
132843-44-8
RL: DEV (Device component use); USES (Uses)
(composition and assembly methods of solid
polymer electrolyte for use in electrochem.
cells)
IT 25852-47-5SDP, Polyethylene glycol dimethacrylate, reaction
product with polysiloxane and lithium imide salt
35625-93-5SDP, Polyethylene glycol methacrylate ethyl ether,
reaction product with polysiloxane and lithium imide salt
RL: DEV (Device component use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(composition and assembly methods of solid
polymer electrolyte for use in electrochem.
cells)
IT 7782-42-5, Graphite, uses
RL: MOA (Modifier or additive use); USES (Uses)
(composition and assembly methods of solid
polymer electrolyte for use in electrochem.
cells)
OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS
RECORD (8 CITINGS)

November 27, 2009

10/571,998

51

ACCESSION NUMBER: 2003:443890 HCAPLUS Full-text
 DOCUMENT NUMBER: 139:24099
 TITLE: Resin composition for polymer
 solid electrolyte in polymer
 battery
 INVENTOR(S): Mori, Satoshi
 PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003165816	A	20030610	JP 2001-363529	200111 29
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JP 3942413	B2	20070711		
PRIORITY APPLN. INFO.:			JP 2001-363529	200111 29
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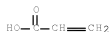
AB The composition comprises (A) curable polymers whose side chains contain C56 aliphatic chains and ethylenically unsatd. unsatd. double bonds having equivalent S850, (B) plasticizers, and (C) electrolytes. Polymer solid electrolyte as a cured product of the composition, and a polymer battery using the solid electrolyte are also claimed. The cured product gives a film with high strength, processability, and ion conductivity
 IT 536993-74-5P, Glycidyl methacrylate-isobutyl methacrylate copolymer acrylate, homopolymer 536993-77-8P, Glycidyl methacrylate-isobutyl acrylate-methyl acrylate copolymer acrylate, homopolymer 536993-78-9P, Ethyl acrylate-glycidyl methacrylate copolymer acrylate, homopolymer
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (cured; curable resin composition containing plasticizers and electrolytes for polymer solid electrolyte in polymer battery)
 RN 536993-74-5 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with oxiranymethyl 2-methyl-2-propenoate, 2-propenoate, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 536993-73-4
 CMF (C8 H14 O2 . C7 H10 O3)x . x C3 H4 O2

CM 2

CRN 79-10-7
 CMF C3 H4 O2



CM 3

CRN 66218-29-9

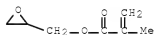
CMF (C8 H14 O2 . C7 H10 O3)x

CCI PMS

CM 4

CRN 106-91-2

CMF C7 H10 O3



CM 5

CRN 97-86-9

CMF C8 H14 O2



RN 536993-77-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with methyl 2-propenoate and 2-methylpropyl 2-propenoate, 2-propenoate, homopolymer (9CI) (CA INDEX NAME)

CM 1

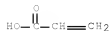
CRN 536993-76-7

CMF (C7 H12 O2 . C7 H10 O3 . C4 H6 O2)x . x C3 H4 O2

CM 2

CRN 79-10-7

CMF C3 H4 O2

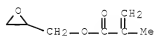


CM 3

CRN 536993-75-6
 CMF (C7 H12 O2 . C7 H10 O3 . C4 H6 O2)x
 CCI PMS

CM 4

CRN 106-91-2
 CMF C7 H10 O3



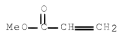
CM 5

CRN 106-63-8
 CMF C7 H12 O2



CM 6

CRN 96-33-3
 CMF C4 H6 O2



RN 536993-78-9 HCAPLUS

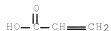
CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with ethyl 2-propenoate, 2-propenoate, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 302588-13-2
 CMF (C7 H10 O3 . C5 H8 O2)x . x C3 H4 O2

CM 2

CRN 79-10-7
 CMF C3 H4 O2



CM 3

CRN 26591-04-8

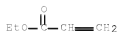
CMF (C7 H10 O3 . C5 H8 O2)x

CCI PMS

CM 4

CRN 140-88-5

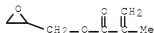
CMF C5 H8 O2



CM 5

CRN 106-91-2

CMF C7 H10 O3



IC ICM C08F299-00

ICS C08F002-44; C08J005-18; H01B001-06; H01M010-40; C08L057-00

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 38

ST curable polymer solid electrolyte battery;

glycidyl methacrylate polymer acrylate curing electrolyte battery

IT Battery electrolytes

Plasticizers

Polymer electrolytes

Solid state secondary batteries

(curable resin composition containing plasticizers and

electrolytes for polymer solid

electrolyte in polymer battery)

IT Alkali metal salts

Phosphonium compounds

Quaternary ammonium compounds, uses

Transition metal salts

RL: TEM (Technical or engineered material use); USES (Uses)

(electrolyte; curable resin composition containing

plasticizers and electrolytes for polymer

solid electrolyte in polymer battery)

IT Polymerization catalysts

(photopolymer; curable resin composition containing plasticizers

and electrolytes for polymer solid

electrolyte in polymer battery)

IT Primary batteries

(solid-state; curable resin composition containing plasticizers and electrolytes for polymer solid electrolyte in polymer battery)

IT Polymerization catalysts
(thermal; curable resin composition containing plasticizers and electrolytes for polymer solid electrolyte in polymer battery)

IT 536993-74-5P, Glycidyl methacrylate-isobutyl methacrylate copolymer acrylate, homopolymer 536993-77-8P, Glycidyl methacrylate-isobutyl acrylate-methyl acrylate copolymer acrylate, homopolymer 536993-78-9P, Ethyl acrylate-glycidyl methacrylate copolymer acrylate, homopolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cured; curable resin composition containing plasticizers and electrolytes for polymer solid electrolyte in polymer battery)

IT 21324-40-3, Lithium hexafluorophosphate
RL: TEM (Technical or engineered material use); USES (Uses)
(electrolyte; curable resin composition containing plasticizers and electrolytes for polymer solid electrolyte in polymer battery)

IT 162881-26-7, Bis(2,4,6-trimethylbenzoyl)-phenylphosphine oxide
RL: CAT (Catalyst use); USES (Uses)
(photopolymerization initiator; curable resin composition containing plasticizers and electrolytes for polymer solid electrolyte in polymer battery)

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(plasticizer; curable resin composition containing plasticizers and electrolytes for polymer solid electrolyte in polymer battery)

IT 94-36-0, Benzoyl peroxide, uses
RL: CAT (Catalyst use); USES (Uses)
(thermal polymerization initiator; curable resin composition containing plasticizers and electrolytes for polymer solid electrolyte in polymer battery)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L32 ANSWER 8 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:40441 HCAPLUS Full-text

DOCUMENT NUMBER: 138:109578

TITLE: Solid electrolyte,
solid electrolytic battery,
and their manufacture

INVENTOR(S): Kezuka, Koichiro; Uchida, Yuji; Morooka,
Masahiro

PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokyo Koho, 11 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003017125	A	20030117	JP 2001-200009	

200106
29

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PRIORITY APPLN. INFO.:

JP 2001-200009

200106
29

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AB The electrolyte contains a crosslinked copolymer of a compound having ≥ 2 α, β -unsatd carbonyl groups and a compound having ≥ 2 amino groups, and ≥ 1 of carboxylic acid compound alkali metal carboxylate salt, and alkaline earth carboxylate salt. The electrolyte is manufactured by preparing the crosslinked copolymer and mixing the other components with the copolymer. The battery is preferably a secondary Li battery, and is prepared by using the electrolyte.

IT 486445-95-9P 486445-96-9P

486445-97-0P

RL: DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); PREP (Preparation); PROC (Process); USES (Uses)
(compsns. and manufacture of crosslinked solid polymer electrolytes for secondary lithium batteries)

RN 486445-95-8 HCAPLUS

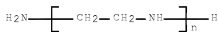
CN Poly[imino(1,2-ethanediyl)], α -hydro- ω -amino-, polymer with α -(1-oxo-2-propen-1-yl)- ω -[(1-oxo-2-propen-1-yl)oxy]poly(oxy-1,2-ethanediyl) (CA INDEX NAME)

CM 1

CRN 27321-98-8

CMF (C2 H5 N)n H3 N

CCI PMS

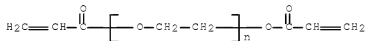


CM 2

CRN 26570-48-9

CMF (C2 H4 O)n C6 H6 O3

CCI PMS



RN 486445-96-9 HCAPLUS

CN Piperidine, 4,4'-(1,3-propanediyl)bis-, polymer with α -hydro- ω -[(1-oxo-2-propenyl)oxy][poly(oxy-1,2-ethanediyl)] ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1) (9CI) (CA INDEX NAME)

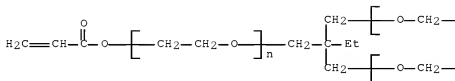
CM 1

CRN 28961-43-5

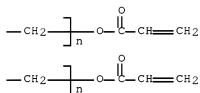
CMF (C2 H4 O)_n (C2 H4 O)_n (C2 H4 O)_n C15 H20 O6

CCI PMS

PAGE 1-A



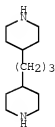
PAGE 1-B



CM 2

CRN 16898-52-5

CMF C13 H26 N2



RN 486445-97-0 HCAPLUS

CN 1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane, polymer with
 α -hydro- ω -(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol
 (3:1) (9CI) (CA INDEX NAME)

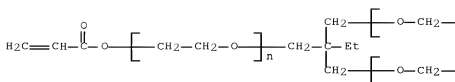
CM 1

CRN 28961-43-5

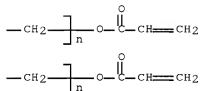
CMF (C2 H4 O)_n (C2 H4 O)_n (C2 H4 O)_n C15 H20 O6

CCI PMS

PAGE 1-A



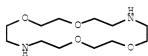
PAGE 1-B



CM 2

CRN 23978-55-4

CMF C12 H26 N2 O4



- IC ICM H01M010-40
ICS C08K005-09; C08L101-02; H01B001-06
- CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
- ST secondary lithium battery solid crosslinked copolymer electrolyte manuf
- IT Battery electrolytes
(compsns. and manufacture of crosslinked solid polymer electrolytes for secondary lithium batteries)
- IT 486445-95-8P 486445-96-9P
486445-97-0P
RL: DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); PREP (Preparation); PROC (Process); USES (Uses)
(compsns. and manufacture of crosslinked solid polymer electrolytes for secondary lithium batteries)
- IT 57-11-4, Stearic acid, uses 64-19-7, Acetic acid, uses 96-49-1, Ethylene carbonate 100-21-0, Terephthalic acid, uses 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 124-04-9, Adipic acid, uses 124-07-2, Caprylic acid, uses 335-67-1 557-04-0, Magnesium stearate 4485-12-5, Lithium stearate 14283-07-9, Lithium fluoroborate 21324-40-3, Lithium hexafluorophosphate

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(compos. and manufacture of crosslinked solid polymer electrolytes for secondary lithium batteries)

L32 ANSWER 9 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:673159 HCAPLUS Full-text

DOCUMENT NUMBER: 137:219511

TITLE: Solid electrolyte, its manufacture and manufacture of battery using the electrolyte

INVENTOR(S): Morooka, Masahiro; Uchida, Yuji; Kezuka, Koichiro

PATENT ASSIGNEE(S): Sony Corp., Japan

SOURCE: Jpn. Kokai Tokyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002252034	A	20020906	JP 2001-47305	20010222

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PRIORITY APPLN. INFO.: JP 2001-47305

20010222

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AB The electrolyte contains a polymer, which is formed by polymerizing a monomer in a solution by heating, in the presence of a 1st initiator, having an 1 h half life temperature 40-65°, and a 2nd initiator, having an 1 h half life temperature 65-120°. The electrolyte and the battery are prepared by polymerizing the monomer.

IT 455921-75-2P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(initiators with controlled one-hour half life temps. in manufacture of polymer electrolytes for secondary lithium batteries)

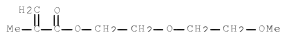
RN 455921-75-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1'-(oxydi-2,1-ethanediyl) ester, polymer with 2-(2-methoxyethoxy)ethyl 2-methyl-2-propenoate (CA INDEX NAME)

CM 1

CRN 45103-58-0

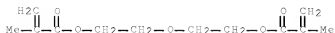
CMF C9 H16 O4



CM 2

CRN 2358-84-1

CMF C12 H18 O5



IC ICM H01M010-40

ICS C08F002-44; C08F004-38; H01B001-06; H01B001-12; H01B013-00

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT Battery electrolytes

(comps. and manufacture of polymer electrolytes for secondary lithium batteries)

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate

14283-07-9, Lithium fluoroborate 21324-40-3, Lithium hexafluorophosphate

RL: DEV (Device component use); USES (Uses)

(comps. and manufacture of polymer electrolytes for secondary lithium batteries)

IT 455921-75-2P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(initiators with controlled one-hour half life temps. in manufacture of polymer electrolytes for secondary lithium batteries)

IT 2895-03-6, Lauryl peroxide 3006-82-4,

tert-Butylperoxy-2-ethylhexanoate 15520-11-3,

Bis-(4-tert-butylcyclohexyl)peroxydicarbonate 16111-62-9,

Di-2-ethylhexylperoxydicarbonate 22288-43-3,

1,1,3,3-Tetramethylbutyl-peroxy-2-ethylhexanoate 51240-95-0,

1,1,3,3-Tetramethylbutylperoxyneodecanoate 62178-88-5,

tert-Hexylperoxyneodecanoate 136662-27-6,

tert-Hexylperoxy-2-ethylhexanoate

RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)

(initiators with controlled one-hour half life temps. in manufacture of polymer electrolytes for secondary lithium batteries)

L32 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:518158 HCAPLUS Full-text

DOCUMENT NUMBER: 137:96258

TITLE: Electrolytic compositions,
polymer solid/gel electrolytes
, and lithium polymer electric batteries

INVENTOR(S): Sato, Takaya; Masuda, Akira

PATENT ASSIGNEE(S): Nisshin Spinning Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokyo Koho, 26 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND DATE

APPLICATION NO.

DATE

 JP 2002198093 A 20020712 JP 2000-394442
 200012
 26
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 PRIORITY APPLN. INFO.: JP 2000-394442
 200012
 26
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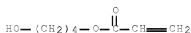
OTHER SOURCE(S): MARPAT 137:96258

AB The title electrolyte compns. comprise (1) a matrix polymer and (2)
 R1(A)m(Y)nX-Li+ [R1 = Cl-4 (F-substd.)alkyl, (F-substd.)alkoxy; A =
 perfluoroalkylene, polyoxyalkylene, polyfluoroxyalkylene; Y = CH2, CF2; X =
 SO3, SO2NSO2R4, CO2; m = 1-70; n = 0-2] and/or (3) Li+X-(Y1)e(A)p(Y2)fX-Li+
 [Y1 = CH2, CF2; Y2 = OCH2, OCF2; e, f = 0-2; p = 0-70]. The Li-
 cation/polymer-anion compns. give the Li secondary batteries high ion
 conductivity or transport and prevention of electrolyte thermal decomposition
 IT 442201-78-7P 442201-80-1P
 RL: PNU (Preparation, unclassified); PRP (Properties); PREP
 (Preparation)
 (electrolytic compns., polymer
 solid/gel electrolytes, and lithium
 polymer elec. batteries)
 RN 442201-78-7 HCAPLUS
 CN 2-Propenoic acid, 4-hydroxybutyl ester, polymer with 2-hydroxyethyl
 2-propenoate, 1,1'-methylenebis[4-isocyanatobenzene], methyloxirane
 and oxirane (9CI) (CA INDEX NAME)

CM 1

CRN 2478-10-6

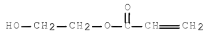
CMF C7 H12 O3



CM 2

CRN 818-61-1

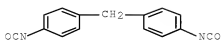
CMF C5 H8 O3



CM 3

CRN 101-68-8

CMF C15 H10 N2 O2



CM 4
 CRN 75-56-9
 CMF C3 H6 O



CM 5
 CRN 75-21-8
 CMF C2 H4 O

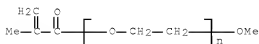


RN 442201-80-1 HCAPLUS
 CN 1,4-Butanediol, polymer with 1,1'-methylenebis[4-isocyanatobenzene],
 α-(2-methyl-1-oxo-2-propenyl)-ω-methoxypoly(oxy-1,2-ethanediyl) and Placel 220N (9CI) (CA INDEX NAME)

CM 1
 CRN 110120-47-3
 CMF Unspecified
 CCI PMS, MAN

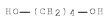
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2
 CRN 26915-72-0
 CMF (C2 H4 O)n C5 H8 O2
 CCI PMS



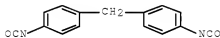
CM 3

CRN 110-63-4
 CMF C4 H10 O2



CM 4

CRN 101-68-8
 CMF C15 H10 N2 O2



- IC ICM H01M010-40
- ICS C08F002-44; C08F299-06; C08G018-67; C08K005-098; C08K005-42;
 C08L075-04; C08L101-00; H01B001-06; H01B001-12
- CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38, 39, 72
- IT Secondary batteries
 (electrolytic compns., polymer
 solid/gel electrolytes, and lithium
 polymer elec. batteries)
- IT Electric conductivity
 (ion conductivity; electrolytic compns.,
 polymer solid/gel electrolytes, and
 lithium polymer elec. batteries)
- IT Electrolytes
 (lithium/polymer plastic anion, solid or gel;
 electrolytic compns., polymer
 solid/gel electrolytes, and lithium
 polymer elec. batteries)
- IT Cations
 (lithium; electrolytic compns.,
 polymer solid/gel electrolytes, and
 lithium polymer elec. batteries)
- IT Thermal decomposition
 (of electrolyte, prevention of; electrolytic
 compns., polymer solid/gel
 electrolytes, and lithium polymer elec.
 batteries)
- IT Polyoxymethylenes, preparation
 RL: PNU (Preparation, unclassified); PRP (Properties); PREP
 (Preparation)
 (perfluoro, carboxy-terminated, lithium salts;
 electrolytic compns., polymer
 solid/gel electrolytes, and lithium
 polymer elec. batteries)
- IT Anions
 (plastic polymer; electrolytic compns
 .., polymer solid/gel electrolytes,
 and lithium polymer elec. batteries)

IT Fluoropolymers, preparation
 RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
 (polyoxyalkylene-, carboxy-terminated, lithium salts; electrolytic compns., polymer solid/gel electrolytes, and lithium polymer elec. batteries)

IT 7439-93-2P, Lithium, uses
 RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
 (cation, in secondary batteries; electrolytic compns., polymer solid/gel electrolytes, and lithium polymer elec. batteries)

IT 37291-33-1P 84743-32-8P 442201-74-3P 442201-75-4P
 442201-76-5P 442201-77-6P 442201-78-7P 442201-79-8P
 442201-80-1P 442514-70-7P
 RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
 (electrolytic compns., polymer solid/gel electrolytes, and lithium polymer elec. batteries)

IT 7440-44-0, MCMB6-28, uses
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (neg. active material; electrolytic compns., polymer solid/gel electrolytes, and lithium polymer elec. batteries)

IT 7791-03-9, Lithium perchlorate (LiClO₄) 12190-79-3, Cobalt lithium oxide (CoLiO₂) 14283-07-9 21324-40-3, Lithium hexafluorophosphate (LiPF₆)
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (pos. active material; electrolytic compns., polymer solid/gel electrolytes, and lithium polymer elec. batteries)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L32 ANSWER 11 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2001:595577 HCAPLUS Full-text
 DOCUMENT NUMBER: 135:183241
 TITLE: Ionically conductive polyoxyethylene-type resin for solid electrolyte, resin composition for solid electrolyte, solid electrolyte, and battery
 INVENTOR(S): Watanabe, Takashi; Nakaya, Hiroyuki
 PATENT ASSIGNEE(S): Sekisui Chemical Co. Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001222909	A	20010817	JP 2000-30614	20000208

PRIORITY APPLN. INFO.:

JP 2000-30614

200002
08

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AB The ionically conductive resin contains a polymer prepared by polymerization of ≥ 1 monomers selected from $\text{CH}_2\text{:CR}_1\text{CO}_2(\text{CH}_2\text{CH}_2\text{O})_n\text{Ph}$ ($\text{R}_1 = \text{H}$, $\text{C}_{\leq 10}$ alkyl, fluoroalkyl; $n \leq 20$) optionally associated with monomers having 2 (meth)acryloyl groups. The composition contains the above polymer and a plasticizer. The solid electrolyte contains the composition and an ionic compound. The battery, preferably a Li secondary battery, uses the solid electrolyte showing high mech. strength and long stability.

IT 163391-50-2P 355021-10-2P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(ionic conductor polyoxyalkylene acrylate
polymer containing plasticizer for solid
electrolyte for batteries)

RN 163391-50-2 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α, α' -[(1-methylethylidene)di-4,1-phenylene]bis[ω -[(1-oxo-2-propen-1-yl)oxy]-, polymer with α -(1-oxo-2-propen-1-yl)- ω -phenoxy poly(oxy-1,2-ethanediyl) (CA INDEX NAME)

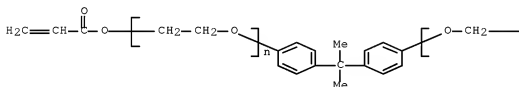
CM 1

CRN 64401-02-1

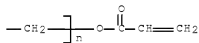
CMF (C2 H4 O)n (C2 H4 O)n C21 H20 O4

CCI PMS

PAGE 1-A



PAGE 1-B

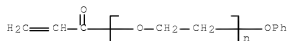


CM 2

CRN 56641-05-5

CMF (C2 H4 O)n C9 H8 O2

CCI PMS



RN 355021-10-2 HCAPLUS

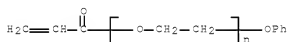
CN Poly(oxy-1,2-ethanediyl), α -(1-oxo-2-propen-1-yl)- ω -[(1-oxo-2-propen-1-yl)oxy]-, polymer with α -(1-oxo-2-propen-1-yl)- ω -phenoxy poly(oxy-1,2-ethanediyl) (CA INDEX NAME)

CM 1

CRN 56641-05-5

CMF (C2 H4 O)n C9 H8 O2

CCI PMS

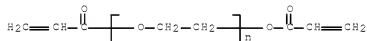


CM 2

CRN 26570-48-9

CMF (C2 H4 O)n C6 H6 O3

CCI PMS



IC ICM H01B001-06

ICS C08F020-30; C08F220-28; C08F220-30; C08F290-06; C08F299-02; C08K005-42; C08L033-14; C08L055-00; H01B001-12; H01M008-02; H01M008-10; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology) Section cross-reference(s): 76

ST ionically conductive polyoxyalkylene acrylate polymer electrolyte; plasticizer ionic conductor polymer solid electrolyte; secondary battery solid electrolyte mech strength

IT Battery electrodes

Plasticizers

Secondary batteries

Solid electrolytes

(ionic conductor polyoxyalkylene acrylate polymer containing plasticizer for solid electrolyte for batteries)

IT Ionic conductors

(polymeric; ionic conductor polyoxyalkylene acrylate polymer containing plasticizer for solid

- electrolyte for batteries)
 IT 21324-40-3, Lithium hexafluorophosphate
 RL: TEM (Technical or engineered material use); USES (Uses)
 (ionic conductor polyoxyalkylene acrylate
 polymer containing plasticizer for solid
 electrolyte containing)
 IT 163391-50-2P 355021-10-2P
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP
 (Preparation); USES (Uses)
 (ionic conductor polyoxyalkylene acrylate
 polymer containing plasticizer for solid
 electrolyte for batteries)
 IT 112-35-6 9004-74-4, Polyethylene glycol methyl ether
 RL: MOA (Modifier or additive use); USES (Uses)
 (plasticizer; ionic conductor polyoxyalkylene acrylate
 polymer containing plasticizer for solid
 electrolyte for batteries)

L32 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2001:458865 HCAPLUS Full-text
 DOCUMENT NUMBER: 135:47003
 TITLE: Resin compositions, polymer
 solid electrolytes and polymer
 cells using them
 INVENTOR(S): Mori, Akira
 PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001172494	A	20010626	JP 1999-363735	199912 22
			<--	
PRIORITY APPLN. INFO.:			JP 1999-363735	199912 22

- <--
 AB The compns. having high ion conductivity and good processability are obtained from (A) copolymers bearing ethylene oxide or/and propylene oxide pendant groups, (B) plasticizers and electrolytes. Thus, heating methoxytetraethylene glycol monomethacrylate 70 with glycidyl methacrylate 30, propylene carbonate 100 and Bz2O2 3 parts at 75° for 5 h gave a copolymer (50% solids), 3.0 g of which was combined with ethylene carbonate 1.00, propylene carbonate 1.0, LiClO4 0.30 and Adeka Optomer SP 170 (sulfonium photoinitiator) 0.1 g, coated on an Al-deposited PET polyester film, irradiated with UV light, covered with a polypropylene film, irradiated with UV light again, and detached from the cover and support films to give a transparent polymer solid electrolyte.
 IT 205499-71-4DF, Glycidyl methacrylate-methoxytetraethylene glycol monomethacrylate copolymer, lithium complexes, hexafluorophosphate or perchlorate-containing 344613-50-9DF, lithium complexes, hexafluorophosphate or perchlorate-containing 344739-35-1DF, lithium complexes, hexafluorophosphate or perchlorate-containing

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
 (resin compns., polymer solid
 electrolytes and polymer cells using them)

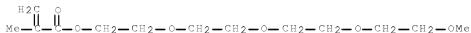
RN 205499-71-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with
 3,6,9,12-tetraoxatridec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX
 NAME)

CM 1

CRN 57454-26-9

CMF C13 H24 O6



CM 2

CRN 106-91-2

CMF C7 H10 O3



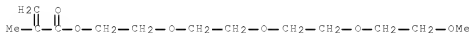
RN 344613-50-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-isocyanatoethyl ester, polymer with
 3,6,9,12-tetraoxatridec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX
 NAME)

CM 1

CRN 57454-26-9

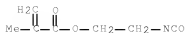
CMF C13 H24 O6



CM 2

CRN 30674-80-7

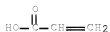
CMF C7 H9 N O3



RN 344739-35-1 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with
 3,6,9,12-tetraoxatridec-1-yl 2-methyl-2-propenoate, 2-propenoate
 (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
 CMF C3 H4 O2

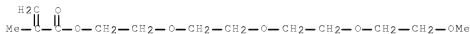


CM 2

CRN 205499-71-4
 CMF (C13 H24 O6 . C7 H10 O3)x
 CCI PMS

CM 3

CRN 57454-26-9
 CMF C13 H24 O6



CM 4

CRN 106-91-2
 CMF C7 H10 O3



IC ICM C08L071-00
 ICS C08L071-00; C08L063-00; H01M010-40
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 76
 ST polymer electrolyte solid methoxytetraethylene
 glycol monomethacrylate copolymer; glycidyl methacrylate copolymer
 solid electrolyte; battery polymer
 electrolyte solid methoxytetraethylene glycol
 monomethacrylate copolymer
 IT Plasticizers

Polymer electrolytes
Solid state secondary batteries
(resin compns., polymer solid
electrolytes and polymer cells using them)

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; resin compns., polymer
solid electrolytes and polymer cells
using them)

IT 205499-71-4DP, Glycidyl methacrylate-methoxytetraethylene
glycol monomethacrylate copolymer, lithium complexes,
hexafluorophosphate or perchlorate-containing 344613-50-9DP,
lithium complexes, hexafluorophosphate or perchlorate-containing
344739-35-1DP, lithium complexes, hexafluorophosphate or
perchlorate-containing
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
(Properties); PREP (Preparation); USES (Uses)
(resin compns., polymer solid
electrolytes and polymer cells using them)

IT 7439-93-2D, Lithium, alkylene oxide pendant-containing acrylic copolymer
complexes, hexafluorophosphate or perchlorate-containing, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(resin compns., polymer solid
electrolytes and polymer cells using them)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
RECORD (1 CITINGS)

L32 ANSWER 13 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2001:107928 HCAPLUS Full-text

DOCUMENT NUMBER: 134:165660

TITLE: Crosslinking agents, crosslinked solid
polymer electrolytes, and secondary
lithium polymer batteries

INVENTOR(S): Kang, Yong Koo; Kim, Eun Kyung; Kim, Ha Young;
Oh, Bu Keun; Cho, Jae Hyun

PATENT ASSIGNEE(S): Samsung SDI Co., Ltd., S. Korea; Korea Research
Institute of Chemical Technology

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 2001040168	A	20010213	JP 2000-195197	200006 28
			<--	
JP 3328262	B2	20020924		
KR 2001004121	A	20010115	KR 1999-24732	199906 28
			<--	
US 6395429	B1	20020528	US 2000-604882	200006 28
			<--	

PRIORITY APPLN. INFO.:

KR 1999-24732

A

199906

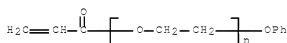
28

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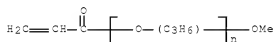
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 134:165660

- AB The crosslinking agents are represented as
 R1:CR4C0(OCH2CH2)pAX[A(CH2CH2O)qCOCR5:R2]A(CH2CH2O)ICOCR6:R3 [I; A = O, CO2, or C1-4 alkylene; X is selected from cyclohexane, benzene, triazine, trioxane, and isocyanurate; R1, R2, and R3 = C1-10 straight (or branched) olefin; R4, R5, and R6 = H or Me; p, q, and r = 1-20]. The solid polymer electrolytes are crosslinked compns. of (1) crosslinking agents I, (2) polyalkylene glycol alkyl ether alkyl (meth)acrylates, (3) Li salts, and (4) crosslinking initiators. Optionally, the electrolytes contain polyalkylene glycol dialkyl ethers. Secondary Li batteries containing the above polymer electrolytes are also claimed. Thus, a composition containing tris(2-acryloyloxyethyl)isocyanurate, polyethylene glycol Me ether methacrylate, polyethylene glycol di-Me ether, dimethoxyphenyl acetophenone, and LiCF3SO3 was crosslinked by UV irradiation to give an electrolyte having high ion conductivity and strength, which was applied to a secondary battery.
- IT 56641-05-5DP, polymers with acryloyloxyethyl monomers, lithium complexes 83844-54-6DP, Polypropylene glycol methyl ether acrylate, polymers with acryloyloxyethyl monomers, lithium complexes 325705-59-7DP, lithium complexes 325719-51-5DP, lithium complexes 325719-52-6DP, lithium complexes 325719-53-7DP, lithium complexes
 RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-based electrolytes crosslinked with acryloyloxyethyl derivs. for lithium batteries)
- RN 56641-05-5 HCAPLUS
- CN Poly(oxy-1,2-ethanediyl), α -(1-oxo-2-propen-1-yl)- ω -phenoxy- (CA INDEX NAME)

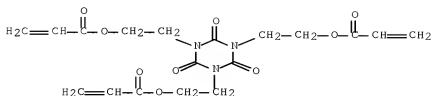


- RN 83844-54-6 HCAPLUS
- CN Poly[oxy(methyl-1,2-ethanediyl)],
 α -(1-oxo-2-propen-1-yl)- ω -methoxy- (CA INDEX NAME)



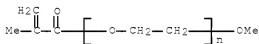
- RN 325705-59-7 HCAPLUS
- CN 2-Propenoic acid, 1,1'-[(2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triy1)tri-2,1-ethanediyl] ester, polymer with
 α -(2-methyl-1-oxo-2-propen-1-yl)- ω -methoxypoly(oxy-1,2-ethanediyl) (CA INDEX NAME)

CRN 40220-08-4
CMF C18 H21 N3 O9



CM 2

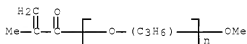
CRN 26915-72-0
CMF (C2 H4 O)n C5 H8 O2
CCI PMS



RN 325719-51-5 HCAPLUS
CN 2-Propenoic acid, (2,4,6-trioxo-1,3,5-triazine-1,3,5-(2H,4H,6H)-
trityl)tri-2,1-ethanediyl ester, polymer with
 α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly[oxy(methyl-
1,2-ethanediyl)] (9CI) (CA INDEX NAME)

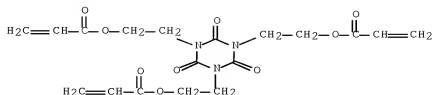
CM 1

CRN 65932-26-5
CMF (C3 H6 O)n C5 H8 O2
CCI IDS, PMS



CM 2

CRN 40220-08-4
CMF C18 H21 N3 O9



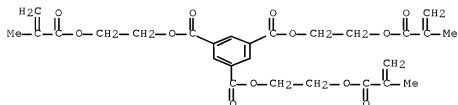
RN 325719-52-6 HCAPLUS

CN 1,3,5-Benzenetricarboxylic acid,
tris[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl] ester, polymer with
 α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly[oxy(methyl-
1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 158464-09-6

CMF C27 H30 O12

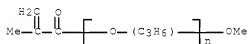


CM 2

CRN 65932-26-5

CMF (C3 H6 O)_n C5 H8 O2

CCI IDS, PMS



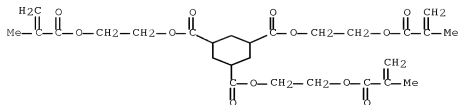
RN 325719-53-7 HCAPLUS

CN 1,3,5-Cyclohexanetricarboxylic acid,
tris[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl] ester, polymer with
 α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly[oxy(methyl-
1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 325705-58-6

CMF C27 H36 O12

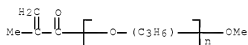


CM 2

CRN 65932-26-5

CMF (C3 H6 O)n C5 H8 O2

CCI IDS, PMS



IC ICM C08L033-14

ICS C08F002-44; C08F002-46; C08F283-06; C08F290-06; C08K003-00;
C08K005-00; C08L071-02; H01B001-06; H01M010-40CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

IT Battery electrolytes

Crosslinking agents

Polymer electrolytes

(polyoxyalkylene-based electrolytes crosslinked with
acryloyloxyethyl derivs. for lithium batteries)

IT 7439-93-2DP, Lithium, polyoxyalkylene complexes, uses
56641-05-5DP, polymers with acryloyloxyethyl monomers,
lithium complexes 83844-54-6DP, Polypropylene glycol
methyl ether acrylate, polymers with acryloyloxyethyl monomers,
lithium complexes 325705-59-7DP, lithium complexes
325719-51-5DP, lithium complexes 325719-52-6DP,
lithium complexes 325719-53-7DP, lithium complexes
RL: DEV (Device component use); PNU (Preparation, unclassified); PRP
(Properties); PREP (Preparation); USES (Uses)
(polyoxyalkylene-based electrolytes crosslinked with
acryloyloxyethyl derivs. for lithium batteries)

OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS
RECORD (5 CITINGS)

L32 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:761990 HCAPLUS Full-text

DOCUMENT NUMBER: 133:337716

TITLE: Polycarbonate compositions, their
manufacture, and uses in solid polymer
electrolytes

INVENTOR(S): Ishitoku, Takeshi; Nogi, Hidenobu

PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

November 27, 2009

10/571,998

75

LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000302861	A	20001031	JP 1999-112870	19990420

PRIORITY APPLN. INFO.: JP 1999-112870 19990420

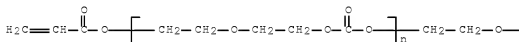
AB The compns. contain polycarbonates R1O(XOCO2)nXOR2 [X = C2-20 hydrocarbylene which may contain double bonds, aromatic rings, and ether linkages; a part of R1 and R2 is (meth)acryloyl and the rest of R1 and R2 is alkoxycarbonyl, phenoxycarbonyl, and/or H; n (average number) = 1-1000]. The compns. are prepared by catalytic transesterification of polycarbonates with C1-4 alkyl (meth)acrylates. The solid polymer electrolytes contain polymerization products of the compns. above and Group Ia metal salts. The solid electrolytes, useful for batteries, capacitors, etc., show high ionic conductivity, electrochem. stability, and flexibility.

IT 66536-64-9P
 RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)

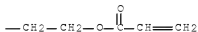
RN 66536-64-9 HCAPLUS

CN Poly(oxycarbonyloxy-1,2-ethanedioxy-1,2-ethanediyl),
 α -[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethyl]- ω -[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C08G064-42
 ICS C08K003-10; C08L069-00; H01B001-06; H01G009-025; H01G009-028; H01M006-18; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 35, 38, 76

ST polycarbonate acrylate manuf electrolyte battery capacitor;
 methacrylate polycarbonate manuf solid polymer electrolyte

- IT Polycarbonates, uses
 RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 ((meth)acrylates; manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)
- IT Polycarbonates, uses
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (acrylic; manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)
- IT Conducting polymers
 (ionic; manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)
- IT Battery electrolytes
 Polymer electrolytes
 Transesterification catalysts
 (manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)
- IT Polyethers, uses
 Polyethers, uses
 RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (polycarbonate-; manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)
- IT Polycarbonates, uses
 Polycarbonates, uses
 RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (polyether-; manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)
- IT Ionic conductors
 (polymeric; manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)
- IT Electrolytic capacitors
 (solid; manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)
- IT 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium trifluoromethanesulfonate 90076-65-6, Lithium bis(trifluoromethylsulfonyl)amide 132404-42-3, Lithium tris(trifluoromethylsulfonyl)methanide
 RL: DEV (Device component use); USES (Uses)
 (electrolyte, polycarbonate complexes; manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)
- IT 7439-93-2DP, Lithium, polycarbonate complexes,

trifluoromethanesulfonate-containing, uses 303190-03-6DP, lithium complexes, trifluoromethanesulfonate-containing
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)

IT 66536-64-9P 303190-01-4P 303190-02-5P

RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)

L32 ANSWER 15 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:532840 HCAPLUS Full-text

DOCUMENT NUMBER: 133:153179

TITLE: Polymer compositions for electrolytes, the electrolytes, and batteries

INVENTOR(S): Kuzurao, Isao; Horie, Katsuo; Ichikawa, Yukio; Nagai, Aisaku

PATENT ASSIGNEE(S): Kureha Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000215917	A	20000804	JP 1999-48721	19990120
			<--	
PRIORITY APPLN. INFO.:			JP 1999-48721	19990120
			<--	

AB The polymers are reaction products of a copolymer, containing $\geq 50\%$ vinylidene fluoride and carboxyl and/or epoxy groups, and a vinyl compound, having ≥ 1 carboxyl and/or epoxy reactive groups. Polymer electrolytes have the polymer impregnated with a nonaq. electrolyte solution. Secondary Li batteries have the electrolyte between Li intercalating cathodes and anodes.

IT 286961-85-1

RL: DEV (Device component use); USES (Uses)
 (compns. of polymer substrates for solid electrolytes in secondary lithium batteries)

RN 286961-85-1 HCAPLUS

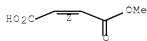
CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with 1,1-difluoroethene, 1,1,2,3,3,3-hexafluoro-1-propene, oxiranylmethyl 2-methyl-2-propenoate and trifluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 3052-50-4

CMF C5 H6 O4

Double bond geometry as shown.



CM 2

CRN 359-11-5

CMF C2 H F3



CM 3

CRN 116-15-4

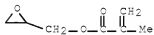
CMF C3 F6



CM 4

CRN 106-91-2

CMF C7 H10 O3



CM 5

CRN 75-38-7

CMF C2 H2 F2



IT 286961-87-3P

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
 (prepolymers for polymer substrates for solid electrolytes in secondary lithium batteries)

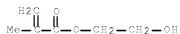
RN 286961-87-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with 1,1-difluoroethene, 1,1,2,3,3,3-hexafluoro-1-propene and [(2-propenyloxy)methyl]oxirane (9CI) (CA INDEX NAME)

CM 1

CRN 868-77-9

CMF C6 H10 O3



CM 2

CRN 116-15-4

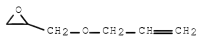
CMF C3 F6



CM 3

CRN 106-92-3

CMF C6 H10 O2



CM 4

CRN 75-38-7

CMF C2 H2 F2



IC ICM H01M010-40

ICS H01B001-06; H01G009-025; C08F214-22
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST secondary lithium battery electrolyte polymer substrate; vinylidene
 fluoride copolymer compn battery electrolyte
 IT Battery electrolytes
 (comps. of polymer substrates for
 electrolytes for secondary lithium batteries)
 IT 286961-85-1 286961-86-2
 RL: DEV (Device component use); USES (Uses)
 (comps. of polymer substrates for solid
 electrolytes in secondary lithium batteries)
 IT 40528-67-4P, Hexafluoropropylene-trifluoroethylene-vinylidene
 fluoride copolymer 186773-67-1P 286961-81-7P
 286961-87-3P
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or
 chemical process); PREP (Preparation); PROC (Process)
 (prepolymers for polymer substrates for solid
 electrolytes in secondary lithium batteries)

L32 ANSWER 16 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1999:421080 HCAPLUS Full-text
 DOCUMENT NUMBER: 131:118445
 TITLE: Acrylic compositions for manufacture
 of polymer solid electrolytes
 INVENTOR(S): Hatazawa, Takenobu; Watanabe, Takashi
 PATENT ASSIGNEE(S): Sekisui Chemical Co. Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11181208	A	19990706	JP 1997-347993	199712 17

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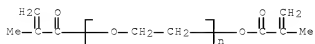
PRIORITY APPLN. INFO.: JP 1997-347993

199712
17

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AB The title comps. comprise acrylic monomers, ion dissociation agents,
 hardening agents, and Li compds. Resulting solid electrolytes have high ion
 conductivity and strength and are especially suitable for batteries.
 IT 233590-27-7DP, lithium complexes 233590-28-8DP
 , lithium complexes
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical
 or engineered material use); PREP (Preparation); USES (Uses)
 (acrylic comps. for manufacture of polymer
 solid electrolytes for lithium batteries)
 RN 233590-27-7 HCAPLUS
 CN Oxirane, methyl-, polymer with oxirane, bis(2-methyl-2-propenoate),
 block, polymer with α -(2-methyl-1-oxo-2-propenyl)- ω -(2-
 methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA
 INDEX NAME)

CRN 25852-47-5
 CMF (C2 H4 O)n C8 H10 O3
 CCI PMS



CM 2

CRN 122985-55-1
 CMF C4 H6 O2 . 1/2 (C3 H6 O . C2 H4 O)x

CM 3

CRN 79-41-4
 CMF C4 H6 O2



CM 4

CRN 106392-12-5
 CMF (C3 H6 O . C2 H4 O)x
 CCI PMS

CM 5

CRN 75-56-9
 CMF C3 H6 O



CM 6

CRN 75-21-8
 CMF C2 H4 O



RN 233590-28-8 HCAPLUS

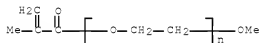
CN Oxirane, methyl-, polymer with oxirane, bis(2-methyl-2-propenoate),
 block, polymer with α -(2-methyl-1-oxo-2-propenyl)- ω -
 methoxypoly(oxy-1,2-ethanediyl) and
 α -(2-methyl-1-oxo-2-propenyl)- ω -[(2-methyl-1-oxo-2-
 propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

CCI PMS

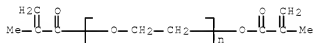


CM 2

CRN 25852-47-5

CMF (C2 H4 O)n C8 H10 O3

CCI PMS



CM 3

CRN 122985-55-1

CMF C4 H6 O2 . 1/2 (C3 H6 O . C2 H4 O)x

CM 4

CRN 79-41-4

CMF C4 H6 O2



CM 5

CRN 106392-12-5

CMF (C3 H6 O . C2 H4 O)x

CCI PMS

CM 6

CRN 75-56-9

CMF C3 H6 O



CM 7

CRN 75-21-8

CMF C2 H4 O



- IC ICM C08L033-00
ICS H01M006-18; H01M010-40; C08F002-46
- CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 76
- ST acrylic polymer lithium solid electrolyte
battery
- IT Battery electrolytes
Polymer electrolytes
(acrylic compns. for manufacture of polymer
solid electrolytes for lithium batteries)
- IT Primary batteries
(lithium; acrylic compns. for manufacture of polymer
solid electrolytes for lithium batteries)
- IT 7439-93-2DP, Lithium, acrylic polymer complexes, uses
233590-27-7DP, lithium complexes 233590-28-8DP,
lithium complexes
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical
or engineered material use); PREP (Preparation); USES (Uses)
(acrylic compns. for manufacture of polymer
solid electrolytes for lithium batteries)
- IT 14283-07-9, Lithium tetrafluoroborate
RL: TEM (Technical or engineered material use); USES (Uses)
(acrylic polymer complexes; acrylic compns. for manufacture
of polymer solid electrolytes for
lithium batteries)
- IT 7473-98-5
RL: MOA (Modifier or additive use); USES (Uses)
(hardening agents; acrylic compns. for manufacture of
polymer solid electrolytes for
lithium batteries)
- IT 868-77-9 9002-89-5, Polyvinyl alcohol
RL: MOA (Modifier or additive use); USES (Uses)
(ion dissociation agents; acrylic compns. for manufacture of
polymer solid electrolytes for
lithium batteries)

L32 ANSWER 17 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1999:366124 HCAPLUS Full-text

DOCUMENT NUMBER: 131:158044

TITLE: Microporous Polymeric Composite Electrolytes
from Microemulsion PolymerizationAUTHOR(S): Xu, Wu; Siow, Kok-Siong; Gao, Zhiqiang; Lee,
Swee-Yong; Chow, Pei-Yong; Gan, Leong-MingCORPORATE SOURCE: Department of Chemistry, National University of
Singapore (NUS), Singapore, 119260, Singapore

SOURCE: Langmuir (1999), 15(14), 4812-4819

CODEN: LANGD5; ISSN: 0743-7463

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Microporous polymeric electrolytes were prepared from microemulsion polymerization of the system containing acrylonitrile (AN), 4-vinylbenzenesulfonic acid lithium salt (VBSLi), ethylene glycol dimethacrylate (EGDMA), ω -methoxy poly(ethyleneoxy)40 undecyl- α -methacrylate (C1-PEO-C11-MA-40), and water. The polymerized-microemulsion solids or membranes have open-cell porous microstructure. The water content in membranes can readily be exchanged with many organic solvents such as γ -butyrolactone (BL), a mixture of ethylene carbonate (EC) and di-Me carbonate (DMC) or propylene carbonate (PC) and EC. The membranes can also be filled with electrolyte solns. such as 1 M LiBF₄/BL, 1 M LiSO₃CF₃/PC-EC, or 1 M LiClO₄/EC-DMC to form polymeric composite electrolytes. Such composite electrolytes, exhibiting ionic conductivity of 10⁻³ S cm⁻¹ (25°) are suitable for use in electrochem. devices.

IT 237770-04-6DP, Acrylonitrile-ethylene glycol dimethacrylate-4-vinylbenzenesulfonic acid, lithium salt- ω -methoxy poly(ethyleneoxy)40-undecyl- α -methacrylate copolymer, lithium complexes
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

RN 237770-04-6 HCAPLUS

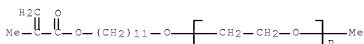
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with lithium 4-ethenylbenzenesulfonate, α -methyl- ω -[11-[(2-methyl-1-oxo-2-propenyl)oxy]undecyl]oxy]poly(oxy-1,2-ethanediyl) and 2-propenenitrile (9CI) (CA INDEX NAME)

CM 1

CRN 174508-47-5

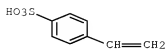
CMF (C2 H4 O)_n C16 H30 O3

CCI PMS



CM 2

CRN 4551-88-6
 CMF C8 H8 O3 S . Li



● Li

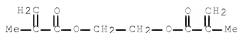
CM 3

CRN 107-13-1
 CMF C3 H3 N



CM 4

CRN 97-90-5
 CMF C10 H14 O4



- CC 35-4 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 36, 72
- ST polymer electrolyte composite prepn microemulsion methacrylate;
 porous microstructure acrylic polymer electrolyte lithium salt;
 membrane solid polymer electrolyte water
 exchange solvent; ionic cond polymer electrolyte acrylic lithium
 salt
- IT Polyoxyalkylenes, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (acrylic, lithium complexes; effects of composition and
 microemulsion polymerization conditions on structure of microporous
 poly(ether acrylate)-lithium salt composite electrolytes)
- IT Ionic conductivity
 Phase diagram
 Polymer electrolytes
 Swelling, physical
 (effects of composition and microemulsion polymerization conditions
 on structure of microporous poly(ether acrylate)-lithium salt
 composite electrolytes)
- IT Polymerization
 (microemulsion; effects of composition and microemulsion

polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

IT Emulsions
(microemulsions, solids and membranes; effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

IT Polymer morphology
(phase, porous; effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

IT Supramolecular structure
(polymer-salt composite; effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

IT 7439-93-2DP, Lithium, polyoxyalkylene-acrylate complexes, preparation 237770-04-6DP, Acrylonitrile-ethylene glycol dimethacrylate-4-vinylbenzenesulfonic acid, lithium salt- α -methoxy poly(ethyleneoxy)40-undecyl- α -methacrylate copolymer, lithium complexes
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

IT 7791-03-9, Lithium perchlorate (LiClO₄) 14283-07-9 33454-82-9, Lithium trifluoromethanesulfonate
RL: PRP (Properties)
(electrolyte; effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

IT 96-48-0 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 616-38-6, Methyl carbonate
RL: NUU (Other use, unclassified); USES (Uses)
(exchange solvent; effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1999:78759 HCAPLUS Full-text

DOCUMENT NUMBER: 130:161935

TITLE: Manufacture of double-layer capacitor, solid polymer electrolyte, and battery, polymerizable composition, and inorganic oxide particles therefor

INVENTOR(S): Takeuchi, Masataka; Nishioka, Ayako

PATENT ASSIGNEE(S): Showa Denko K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND DATE

APPLICATION NO.

DATE

JP 11031414

A

19990202

JP 1997-185578

199707
10

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PRIORITY APPLN. INFO.:

JP 1997-185578

199707
10

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AB The composition comprises an organic monomer, a (Li) salt electrolyte, and an inorg. oxide microparticle having polymerizable functional group CH₂:CR₁CO₂ or CH₂:CR₂CO(OR₃)_xNHCO₂ (R₁, R₂ = H, alkyl; R₃ = bivalent group; x = 0-10). The inorg. oxide microparticle is also claimed. A solid polymer electrolyte is prepared by heating and/or active-beam irradiation on the polymerizable composition. In manufacture of double-layer capacitor or battery, the composition is charged in a mold for the device part and then cured as above. The capacitor and the battery showed less liquid leak, long cycle life., and large output power.

IT 220736-45-8P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(grafted or alumina; solid electrolyte containing acrylic polymer-grafted oxide particles for capacitor and battery with good reliability)

RN 220736-45-8 HCAPLUS

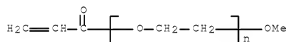
CN Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), tris[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]carbamate], polymer with α-(1-oxo-2-propenyl)-ω-methoxypoly(oxy-1,2-ethanediy) (9CI) (CA INDEX NAME)

CM 1

CRN 32171-39-4

CMF (C2 H4 O)_n C4 H6 O2

CCI PMS



CM 2

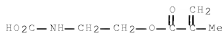
CRN 76363-90-1

CMF C7 H11 N O4 . 1/3 C3 H8 O3 . (C3 H6 O . C2 H4 O)_x

CM 3

CRN 96571-20-9

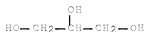
CMF C7 H11 N O4



CM 4

CRN 56-81-5

CMF C3 H8 O3



CM 5

CRN 9003-11-6

CMF (C3 H6 O . C2 H4 O) x

CCI PMS

CM 6

CRN 75-56-9

CMF C3 H6 O



CM 7

CRN 75-21-8

CMF C2 H4 O



IC ICM H01B001-12

ICS C08F290-06; C08F299-06; C08K009-04; C08L075-04; C09C003-10;
H01G009-025; H01M010-40; C08F020-00

CC 76-10 (Electric Phenomena)

Section cross-reference(s): 38, 52

ST acrylic polyoxyalkylene grafted alumina polymer electrolyte;
capacitor battery electrolyte polymer grafted alumina; short circuit
prevention polymer electrolyte compn; lithium
secondary battery polymer electrolyte reliabilityIT Capacitors
(double layer; solid electrolyte containing

- acrylic polymer-grafted oxide particles for capacitor and battery with good reliability)
- IT Polymerization
(graft; solid electrolyte containing acrylic polymer-grafted oxide particles for capacitor and battery with good reliability)
- IT Secondary batteries
(lithium; solid electrolyte containing acrylic polymer-grafted oxide particles for capacitor and battery with good reliability)
- IT Hybrid organic-inorganic materials
Polymer electrolytes
(solid electrolyte containing acrylic polymer-grafted oxide particles for capacitor and battery with good reliability)
- IT 2530-85-0
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(KBM 503P; solid electrolyte containing acrylic polymer-grafted oxide particles for capacitor and battery with good reliability)
- IT 1344-28-1, Alumina, uses
RL: MOA (Modifier or additive use); USES (Uses)
(UA 5805; solid electrolyte containing acrylic polymer-grafted oxide particles for capacitor and battery with good reliability)
- IT 220293-97-0P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation)
(grafted or alumina; solid electrolyte containing acrylic polymer-grafted oxide particles for capacitor and battery with good reliability)
- IT 220736-45-8P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(grafted or alumina; solid electrolyte containing acrylic polymer-grafted oxide particles for capacitor and battery with good reliability)
- IT 30674-80-7
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(in preparation of (meth)acryloyl-terminated monomers for manufacture of polymer electrolyte)
- IT 375-01-9, 2,2,3,3,4,4,4-Heptafluorobutanol 37286-64-9, Polypropylene glycol monomethyl ether
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of (meth)acryloyl-terminated monomers for manufacture of polymer electrolyte)
- IT 9082-00-2DP, methacryloxyethylaminocarbonyl-terminated, graft polymers with alumina
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation)
(solid electrolyte containing acrylic polymer-grafted oxide particles for capacitor and battery with good reliability)
- IT 429-06-1, Tetraethylammonium tetrafluoroborate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process)
(solid electrolyte containing acrylic polymer-grafted oxide particles for capacitor and battery

with good reliability)
 IT 1309-48-4, Magnesia, uses 7631-86-9, Silica, uses 13463-67-7, Titania, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (with polymerizable groups; solid electrolyte
 containing acrylic polymer-grafted oxide particles for
 capacitor and battery with good reliability)
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L32 ANSWER 19 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1998:105910 HCAPLUS Full-text
 DOCUMENT NUMBER: 128:169784
 ORIGINAL REFERENCE NO.: 128:33409a,33412a
 TITLE: Solid polymer electrolyte
 batteries
 INVENTOR(S): Takei, Fumio; Takahashi, Toru; Yoshida, Hiroaki
 PATENT ASSIGNEE(S): Fujitsu Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10040957	A	19980213	JP 1996-196425	199607 25
JP 3634075	B2	20050330	JP 1996-196425	199607 25

AB The batteries have a cathode and an anode holding a solid polymer electrolyte having a polymer matrix containing a backbone of polysaccharides or their derivs. The backbone is selected from glucan, galactan, alginic acid, fructan, chondroitin sulfate, hyaluronic acid, mannan, and chitin; and the polymer may have functional group side chain attached to the backbone.

IT 202934-96-1P 202934-98-3P
 202935-00-0P 202935-02-2P 202935-04-4P
 202935-06-6P 202935-08-8P 202935-10-2P
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(comps. and manufacture of solid polymer electrolyte with polysaccharide matrixes for batteries)

RN 202934-96-1 HCAPLUS

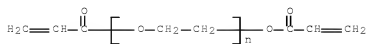
CN Cellulose, 2-propenoate, carboxymethyl ether, polymer with α -(1-oxo-2-propenyl)- α -(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediy) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9

CMF (C2 H4 O)n C6 H6 O3

CCI PMS



CM 2

CRN 202934-95-0

CMF C3 H4 O2 . x C2 H4 O3 . x Unspecified

CM 3

CRN 9004-34-6

CMF Unspecified

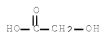
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 79-14-1

CMF C2 H4 O3



CM 5

CRN 79-10-7

CMF C3 H4 O2



RN 202934-98-3 HCAPLUS

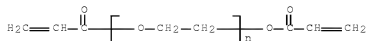
CN Galactan, 2-propenoate, carboxymethyl ether, polymer with
 α-(1-oxo-2-propenyl)-ø-[(1-oxo-2-propenyl)oxy]poly(oxy-
 1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9

CMF (C2 H4 O)n C6 H6 O3

CCI PMS



CM 2

CRN 202934-97-2

CMF C3 H4 O2 . x C2 H4 O3 . x Unspecified

CM 3

CRN 39300-87-3

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 79-14-1

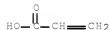
CMF C2 H4 O3



CM 5

CRN 79-10-7

CMF C3 H4 O2



RN 202935-00-0 HCAPLUS

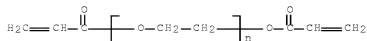
CN Alginic acid, 2-propenoate, carboxymethyl ether, polymer with
 α -(1-oxo-2-propenyl)- ω -[(1-oxo-2-propenyl)oxy]poly(oxy-
 1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9

CMF (C2 H4 O)n C6 H6 O3

CCI PMS



CM 2

CRN 202934-99-4

CMF C3 H4 O2 . x C2 H4 O3 . x Unspecified

CM 3

CRN 9005-32-7

CMF Unspecified

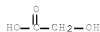
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 79-14-1

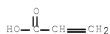
CMF C2 H4 O3



CM 5

CRN 79-10-7

CMF C3 H4 O2



RN 202935-02-2 HCAPLUS

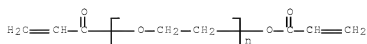
CN D-Fructan, 2-propenoate, carboxymethyl ether, polymer with
 α -(1-oxo-2-propenyl)- ω -[(1-oxo-2-propenyl)oxy]poly(oxy-
 1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9

CMF (C2 H4 O)n C6 H6 O3

CCI PMS



CM 2

CRN 202935-01-1
 CMF C3 H4 O2 . x C2 H4 O3 . x Unspecified

CM 3

CRN 9037-90-5
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

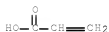
CM 4

CRN 79-14-1
 CMF C2 H4 O3



CM 5

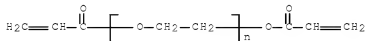
CRN 79-10-7
 CMF C3 H4 O2



RN 202935-04-4 HCAPLUS
 CN Chondroitin, hydrogen sulfate 2-propenoate, carboxymethyl ether,
 polymer with α -(1-oxo-2-propenyl)- α -[(1-oxo-2-
 propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9
 CMF (C2 H4 O)n C6 H6 O3
 CCI PMS



CM 2

CRN 202935-03-3
 CMF C3 H4 O2 . x C2 H4 O3 . x H2 O4 S . x Unspecified

CM 3

CRN 9007-27-6
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 7664-93-9
 CMF H2 O4 S



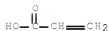
CM 5

CRN 79-14-1
 CMF C2 H4 O3



CM 6

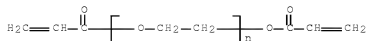
CRN 79-10-7
 CMF C3 H4 O2



RN 202935-06-6 HCAPLUS
 CN Hyaluronic acid, 2-propenoate, carboxymethyl ether, polymer with
 α -(1-oxo-2-propenyl)- θ -[(1-oxo-2-propenyl)oxy]poly(oxy-
 1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9
 CMF (C2 H4 O)n C6 H6 O3
 CCI PMS



CM 2

CRN 202935-05-5

CMF C3 H4 O2 . x C2 H4 O3 . x Unspecified

CM 3

CRN 9004-61-9

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 79-14-1

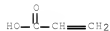
CMF C2 H4 O3



CM 5

CRN 79-10-7

CMF C3 H4 O2



RN 202935-08-8 HCAPLUS

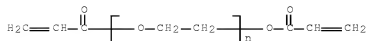
CN D-Mannan, 2-propenoate, carboxymethyl ether, polymer with
 α-(1-oxo-2-propenyl)-ø-[(1-oxo-2-propenyl)oxy]poly(oxy-
 1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9

CMF (C2 H4 O)n C6 H6 O3

CCI PMS



CM 2

CRN 202935-07-7

CMF C3 H4 O2 . x C2 H4 O3 . x Unspecified

CM 3

CRN 51395-96-1

CMF Unspecified

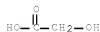
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 79-14-1

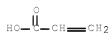
CMF C2 H4 O3



CM 5

CRN 79-10-7

CMF C3 H4 O2



RN 202935-10-2 HCAPLUS

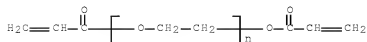
CN Chitin, 2-propenoate, carboxymethyl ether, polymer with
 α -(1-oxo-2-propenyl)- ω -[(1-oxo-2-propenyl)oxylpoly(oxy-
 1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9

CMF (C2 H4 O)n C6 H6 O3

CCI PMS



CM 2

CRN 202935-09-9
 CMF C3 H4 O2 . x C2 H4 O3 . x Unspecified

CM 3

CRN 1398-61-4
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

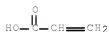
CM 4

CRN 79-14-1
 CMF C2 H4 O3



CM 5

CRN 79-10-7
 CMF C3 H4 O2



IC ICM H01M010-40
 ICS H01M010-40; C08B037-00; C08L005-00; H01M006-18
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 IT Battery electrolytes
 (compns. and manufacture of solid polymer
 electrolyte with polysaccharide matrixes for batteries)
 IT Battery cathodes
 (lithium cobaltate-polyaniline cathodes for batteries using
 solid polymer electrolyte with
 polysaccharide matrixes)
 IT Secondary batteries
 (lithium; compns. and manufacture of solid
 polymer electrolyte with polysaccharide
 matrixes for batteries)
 IT 108-32-7P, Propylene carbonate 14283-07-9P, Lithium fluoroborate
 202934-96-1P 202934-98-3P 202935-00-0P
 202935-02-2P 202935-04-4P 202935-06-6P
 202935-08-8P 202935-10-2P
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP
 (Preparation); USES (Uses)
 (compns. and manufacture of solid polymer
 electrolyte with polysaccharide matrixes for batteries)
 IT 12190-79-3P, Cobalt lithium oxide (CoLiO2) 25233-30-1P,
 Polyaniline
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP

(Preparation); USES (Uses)
 (lithium cobaltate-polyaniline cathodes for batteries using
 solid polymer electrolyte with
 polysaccharide matrixes)

L32 ANSWER 20 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:59450 HCAPLUS Full-text
 DOCUMENT NUMBER: 128:117388
 ORIGINAL REFERENCE NO.: 128:22959a,22962a
 TITLE: Solid electrolyte-formable
 compositions for film batteries
 INVENTOR(S): Takiyama, Eiichiro; Matsui, Fumio; Ogiwara,
 Kazuo
 PATENT ASSIGNEE(S): Showa Highpolymer Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

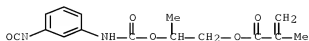
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10017709	A	19980120	JP 1996-173867	199607 03

<--
 PRIORITY APPLN. INFO.: JP 1996-173867
 199607
 03

<--
 AB Title compns. comprise (a) 100 parts unsatd. cellulose derivs. obtained by
 reacting Et cellulose with unsatd. monoisocyanates at NCO/OH mol ratio 0.01-
 1/1, (b) 10-1000 parts containing 10 mol% (meth)acrylonitrile, (c) 1-50 parts
 (on 100 parts a + b) Li compds., and (d) 10-1000 parts (on 100 parts a + b)
 solvents capable of dissolving the Li compds. Thus, 300 g Ethocel STD 100 was
 reacted with 6.0 g MOI (isocyanatoethyl methacrylate) at 60-65° for 3 h in 400
 g propylene carbonate (I) and mixed with 300 g acrylonitrile to obtain a
 composition, 100 parts of which was mixed with I 260, Percadox 16 2, and
 LiClO₄ 34 g, cast between two Pt electrode plates, and polymerized at 100° for
 2 h under N to give soft gelatin-like polymer films showing thickness 0.54-
 0.61 mm, strength 1020-1160 g/cm², and elec. conductivity measured by a.c.
 impedance method (1 MHz) 2.3 + 10⁻⁴ s/cm.
 IT 201742-82-7P, 2-Propenoic acid, 2-methyl-,
 2-[[[(3-isocyanatomethylphenyl)amino]carbonyl]oxy]propyl ester;
 ethanol; cellulose; acrylonitrile graft polymer
 RL: DEV (Device component use); IMF (Industrial manufacture); POF
 (Polymer in formulation); PRP (Properties); PREP (Preparation); USES
 (Uses)
 (solid electrolyte-formable compns.
 containing unsatd. cellulose derivative graft polymers and lithium
 compds. for film batteries)
 RN 201742-82-7 HCAPLUS
 CN Cellulose, ethyl ether, polymer with
 2-[[[(3-isocyanatomethylphenyl)amino]carbonyl]oxy]propyl
 2-methyl-2-propenoate and 2-propenenitrile, graft (9CI) (CA INDEX
 NAME)

CM 1

CRN 57077-42-6
 CMF C16 H18 N2 O5
 CCI IDS



D1—Me

CM 2
 CRN 107-13-1
 CMF C3 H3 N



CM 3
 CRN 9004-57-3
 CMF C2 H6 O . x Unspecified
 CM 4
 CRN 9004-34-6
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 5
 CRN 64-17-5
 CMF C2 H6 O



IC ICM C08L001-26
 ICS H01M006-18; H01M010-40; C08F290-02; C08G018-64; C08G018-81;
 C08L033-20
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 37
 ST solid electrolyte cellulose deriv film battery;
 ethyl cellulose acrylic polyurethane graft; acrylic polyurethane
 ethyl cellulose solid electrolyte
 IT Battery electrolytes
 (solid electrolyte-formable compns.)

- containing unsatd. cellulose derivative graft polymers and lithium compds. for film batteries)
- IT Polyelectrolytes
(solid; solid electrolyte-formable compns. containing unsatd. cellulose derivative graft polymers and lithium compds. for film batteries)
- IT 201740-48-9P, Ethocel STD 100-2-isocyanatoethyl methacrylate-acrylonitrile graft copolymer 201742-82-7P, 2-Propenoic acid, 2-methyl-, 2-[[[(3-isocyanatomethylphenyl)amino]carbonyl]oxy]propyl ester; ethanol; cellulose; acrylonitrile graft polymer
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(solid electrolyte-formable compns. containing unsatd. cellulose derivative graft polymers and lithium compds. for film batteries)
- IT 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 33454-82-9, Lithium trifluoromethanesulfonate
RL: MOA (Modifier or additive use); USES (Uses)
(solid electrolyte-formable compns. containing unsatd. cellulose derivative graft polymers and lithium compds. for film batteries)
- IT 75-05-8, Acetonitrile, uses 96-48-0, γ -Butyrolactone 108-32-7, Propylene carbonate 110-71-4 126-33-0, Sulfolane
RL: NUU (Other use, unclassified); USES (Uses)
(solvents; solid electrolyte-formable compns. containing unsatd. cellulose derivative graft polymers and lithium compds. for film batteries)

L32 ANSWER 21 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER:

1998:36024 HCAPLUS Full-text

DOCUMENT NUMBER:

128:143185

ORIGINAL REFERENCE NO.:

128:28129a

TITLE:

Polyoxyalkylene (meth)acrylate- and isocyanate-containing monomer composition, polymeric solid electrolyte from it, its usage as battery and electric double-layer capacitor, and their manufacture

INVENTOR(S):

Takeuchi, Masataka; Naijo, Shuichi; Okubo, Takashi

PATENT ASSIGNEE(S):

Showa Denko K. K., Japan

SOURCE:

Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT:

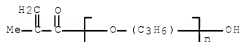
1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10007759	A	19980113	JP 1996-160266	19960620
			<--	
PRIORITY APPLN. INFO.:			JP 1996-160266	199606

<--

- AB The monomer composition contains
 [CH2:CR1CO[O(CH2)x(CHMe)y]z]vR2OH (R1 = H, alkyl; R2 = n-valent organic chain;
 n ≥2; x, y = 0-5; z = 0-10) and R3(NCO)k (R3 = m-valent organic group; m, k ≥1)
 or their reaction products. The polymeric solid electrolyte comprises a
 copolymer from the above composition and ≥1 electrolyte. The electrolyte may
 contain a plasticizer. The battery and capacitor using the above electrolyte
 are manufactured by polymerization of the above monomer composition in a case
 or on a support. Films from the electrolyte showed improved mech. strength
 and high ionic conductivity and gave Li secondary batteries with improved
 cycle life.
- IT 39420-45-6DP, reaction products with Pr isocyanate,
 polymers with block polyoxyalkylene methacrylates
 202480-89-5P 204578-43-8P
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (polymeric solid electrolytes from
 polyoxyalkylene (meth)acrylate- and isocyanate-containing monomer
 compns. for batteries and elec. double-layer capacitors)
- RN 39420-45-6 HCAPLUS
- CN Poly[oxy(methyl-1,2-ethanediyl)],
 α-(2-methyl-1-oxo-2-propen-1-yl)-ω-hydroxy- (CA INDEX
 NAME)



- RN 202480-89-5 HCAPLUS
- CN Poly[oxy(methyl-1,2-ethanediyl)],
 α-[[[6-(carboxyamino)hexyl]amino]carbonyl]-ω-[(2-methyl-
 1-oxo-2-propenyl)oxy]-, ester with
 α-hydro-ω-[[[6-(
 isocyanato)hexyl]amino]carbonyl]oxypoly(oxy-1,2-ethanediyl) (1:1),
 polymer with α-(2-methyl-1-oxo-2-propenyl)-ω-
 methoxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

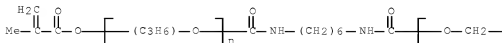
CM 1

CRN 204578-43-8

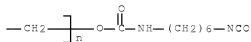
CMF (C3 H6 O)n (C2 H4 O)n C20 H32 N4 O7

CCI IDS, PMS

PAGE 1-A



PAGE 1-B

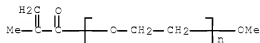


CM 2

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

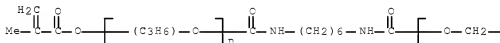
CCI PMS



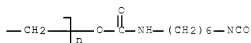
RN 204578-43-8 HCAPLUS

CN Poly[oxy(methyl-1,2-ethanediyl)],
 α -[[[6-(carboxyamino)hexyl]amino]carbonyl]- ω -[(2-methyl-1-oxo-2-propenyl)oxy]-, ester with
 α -hydro- ω -[[[6-isocyanatohexyl]amino]carbonyl]oxy]poly(oxy-1,2-ethanediyl) (1:1)
 (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C08G018-67

ICS C08G018-48; H01B001-06; H01G009-028; H01M006-18; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38, 76

ST polyoxyalkylene acrylate isocyanate monomer solid electrolyte; ionic conductor polyoxyalkylene methacrylate isocyanate; secondary battery electrolyte polyoxyalkylene polycarbonate polyurethane; elec double layer capacitor solid electrolyte; lithium battery electrolyte polyoxyalkylene polycarbonate polyurethane

IT Polyoxyalkylenes, uses

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP

- (Preparation); USES (Uses)
(block; polymeric solid electrolytes from
polyoxyalkylene (meth)acrylate- and isocyanate-containing monomer
compsns. for batteries and elec. double-layer capacitors)
- IT Capacitors
(double layer; polymeric solid electrolytes
from polyoxyalkylene (meth)acrylate- and isocyanate-containing
monomer compsns. for batteries and elec. double-layer
capacitors)
- IT Battery electrolytes
Ionic conductors
Secondary batteries
Solid electrolytes
(polymeric solid electrolytes from
polyoxyalkylene (meth)acrylate- and isocyanate-containing monomer
compsns. for batteries and elec. double-layer capacitors)
- IT Polyurethanes, uses
RL: DEV (Device component use); IMF (Industrial manufacture); PRP
(Properties); TEM (Technical or engineered material use); PREP
(Preparation); USES (Uses)
(polyoxyalkylene-, block; polymeric solid
electrolytes from polyoxyalkylene (meth)acrylate- and
isocyanate-containing monomer compsns. for batteries and
elec. double-layer capacitors)
- IT 2926-30-9, Sodium trifluoromethanesulfonate 7791-03-9, Lithium
perchlorate 21324-40-3, Lithium hexafluorophosphate
RL: DEV (Device component use); MOA (Modifier or additive use); PRP
(Properties); TEM (Technical or engineered material use); USES
(Uses)
(electrolyte; polymeric solid
electrolytes from polyoxyalkylene (meth)acrylate- and
isocyanate-containing monomer compsns. for batteries and
elec. double-layer capacitors)
- IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate
108-32-7, Propylene carbonate 143-24-8, Tetraglyme
RL: DEV (Device component use); MOA (Modifier or additive use); PRP
(Properties); TEM (Technical or engineered material use); USES
(Uses)
(plasticizer; polymeric solid electrolytes
from polyoxyalkylene (meth)acrylate- and isocyanate-containing
monomer compsns. for batteries and elec. double-layer
capacitors)
- IT 110-78-1DP, Propyl isocyanate, reaction products with polypropylene
glycol methacrylate, polymers with block polyoxyalkylene
methacrylates 818-61-1DP, reaction products with block
polyoxyalkylene-polyurethanes 822-06-0DP, reaction products with
polyethylene glycol Me ether 1709-71-3P 9004-74-4DP, reaction
products with hexamethylene diisocyanate 9048-90-2DP,
Hexamethylene diisocyanate-polypropylene glycol copolymer, reaction
products with acrylic alcs. 9059-74-9DP, reaction products with
hydroxyethyl acrylate, polymers 39420-45-6DP,
reaction products with Pr isocyanate, polymers with block
polyoxyalkylene methacrylates 161518-45-2P 202480-89-5P
204578-43-8P
RL: DEV (Device component use); IMF (Industrial manufacture); PRP
(Properties); TEM (Technical or engineered material use); PREP
(Preparation); USES (Uses)
(polymeric solid electrolytes from
polyoxyalkylene (meth)acrylate- and isocyanate-containing monomer
compsns. for batteries and elec. double-layer capacitors)

IT 429-06-1, Tetraethylammonium tetrafluoroborate
 RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polymeric solid electrolytes from polyoxyalkylene (meth)acrylate- and isocyanate-containing monomer compns. for batteries and elec. double-layer capacitors)

IT 118889-33-1P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (polymeric solid electrolytes from polyoxyalkylene (meth)acrylate- and isocyanate-containing monomer compns. for batteries and elec. double-layer capacitors)

IT 79-10-7, 2-Propenoic acid, reactions 106-91-2 9004-74-4 30674-80-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (polymeric solid electrolytes from polyoxyalkylene (meth)acrylate- and isocyanate-containing monomer compns. for batteries and elec. double-layer capacitors)

L32 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:79950 HCAPLUS Full-text

DOCUMENT NUMBER: 126:90509

ORIGINAL REFERENCE NO.: 126:17465a,17468a

TITLE: Quick process for manufacture of solid polymer electrolytes from photo-polymerizable compositions
 Nishikitani, Yoshinori; Matsuno, Mitsuo
 INVENTOR(S):
 PATENT ASSIGNEE(S): Nippon Oil Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08295711	A	19961112	JP 1995-99343	19950425
			<--	
PRIORITY APPLN. INFO.:			JP 1995-99343	19950425
			<--	

AB Title electrolytes are obtained from compns. containing CH₂:CR₁CO₂(CHR₂CHR₃)_nR₄ (R₁-4 = H, C1-5 alkyl groups; n ≥ 1), poly(alkylene oxide) acrylates, polar organic solvents, and alkali metal or alkaline earth metal salts. Thus, a uniform solution of ME O4 (polyethylene glycol monomethacrylate monomethyl ether) 1.0, 9G (polyethylene glycol dimethacrylate) 0.02, γ-butyrolactone 4.0, LiClO₄ 0.4, and Darocur 1116 [1-(4-isopropylphenyl)-2-hydroxy-2-methylpropan-1-one] 0.02 g was degassed, cast on a Teflon plate, and UV-irradiated under N at room temperature for 20 min to give a solid electrolyte showing ion conductivity 6.0 mS/cm (25°).

IT 108927-94-2P, Polyethylene glycol dimethacrylate-polyethylene glycol monomethacrylate monomethyl ether copolymer
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM

(Technical or engineered material use); PREP (Preparation); USES
(Uses)

(quick process for manufacture of solid polymer
electrolytes from photo-polymerizable compns.)

RN 108927-94-2 HCAPLUS

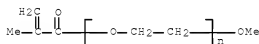
CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -methoxy-, polymer with
 α -(2-methyl-1-oxo-2-propen-1-yl)- ω -[(2-methyl-1-oxo-2-
propen-1-yl)oxy]poly(oxy-1,2-ethanediyl) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)_n C5 H8 O2

CCI PMS

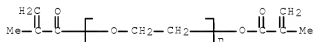


CM 2

CRN 25852-47-5

CMF (C2 H4 O)_n C8 H10 O3

CCI PMS



IC ICM C08F290-06

ICS C08F002-48; G02F001-15; H01B001-06; H01G009-025; H01M006-18;
H01M010-40

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 49, 52, 72, 76

ST solid polymer electrolyte manuf photopolymn;
polyalkylene glycol acrylate solid electrolyte;
polyoxyalkylene acrylate electrolyte photopolymn; lithium
perchlorate electrolyte photocurable polymer

IT Polyoxyalkylenes, uses

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM
(Technical or engineered material use); PREP (Preparation); USES
(Uses)

(acrylic; quick process for manufacture of solid
polymer electrolytes from photo-polymerizable
compns.)

IT Polymerization

(photopolymn.; quick process for manufacture of solid
polymer electrolytes from photo-polymerizable
compns. containing acrylated polyoxyalkylenes)

IT Solid electrolytes

(quick process for manufacture of solid polymer

electrolytes from photo-polymerizable compns.)

IT 7601-89-0, Sodium perchlorate 7791-03-9, Lithium perchlorate
14283-07-9, Lithium tetrafluoroborate
RL: TEM (Technical or engineered material use); USES (Uses)
(electrolyte; quick process for manufacture of solid
polymer electrolytes from photo-polymerizable
compns. containing)

IT 168927-94-2P, Polyethylene glycol
dimethacrylate-polyethylene glycol monomethacrylate monomethyl ether
copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM
(Technical or engineered material use); PREP (Preparation); USES
(Uses)
(quick process for manufacture of solid polymer
electrolytes from photo-polymerizable compns.)

IT 96-48-0, γ -Butyrolactone 96-49-1, Ethylene carbonate
108-32-7, Propylene carbonate
RL: NUU (Other use, unclassified); USES (Uses)
(solvents; in quick process for manufacture of solid
polymer electrolytes from photo-polymerizable
compns. containing)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS
RECORD (2 CITINGS)

=>